```
Glu Glu Val Leu Ser Lys Leu Asn Thr Phe Val Trp Gly Arg Leu Arg
865                 870                 875                 880
Thr Ile Leu Ser Ser Leu Gly Phe Asp Lys Glu Ile Ile Ala Thr Val
                885                 890                 895
Leu Thr Asp Asn Cys Pro Lys Asn Pro Leu Thr Ile Ile Gln Ser Ala
            900                 905                 910
Gln Ser Ile Gln Glu Leu Lys Asn Thr Gln Ile Leu Lys Thr Ile Ala
        915                 920                 925
Ala Thr His Asn Arg Leu Lys Lys Ile Leu Ala Ser Leu Ser Phe Ser
    930                 935                 940
Val Thr Glu Gln Met Phe Ser Leu Gln Ser Ala Glu Asp Leu Leu Phe
945                 950                 955                 960
Lys Gln Ala Leu Asp Arg Phe Val Glu Glu Thr Thr Ala Leu Pro Ile
                965                 970                 975
Ser Ser Lys Asp Tyr Leu His Leu Leu Lys Glu Leu Ala Gln Ser Thr
            980                 985                 990
Glu Leu Phe Leu Asp Ser Val Arg Val Ala Ser Asp Asp Glu Ser Thr
        995                 1000                1005
Arg Asn Gln Arg Ile Ala Leu Leu Ile Ala Ala Gln Lys Cys Phe Gly
    1010                1015                1020
Phe Tyr Ala Trp Asp Val Leu
1025                1030
<210>592
<211>164
<212>PRT
<213>Chlamydia trachomatis
<400>592
Lys Arg Ser Ser Leu Met Arg Phe Leu Leu Ala Leu Phe Ser Leu Ile
  1                 5                  10                  15
Leu Val Leu Pro Ala Thr Glu Ala Phe Ser Thr Glu Asp Lys Gln Cys
             20                  25                  30
Gln Gln Glu Ala Glu Glu Asp Cys Ser Gln Val Ala Asp Thr Cys Val
         35                  40                  45
Phe Tyr Ser Tyr Ala Glu Gly Leu Glu His Ala Arg Asp Glu Gly Lys
     50                  55                  60
Leu Thr Leu Val Val Leu Leu Asp Thr Ser Gly Tyr Ser Phe Glu Thr
 65                  70                  75                  80
Leu Ala Tyr Ala Ala His Ala Met Glu Ser Ser Leu Leu Ser Thr Phe
                85                  90                  95
Ala Asp Phe Val Val Leu Ser Arg Arg Glu Ala Val Pro Leu Ile Ile
            100                 105                 110
Pro Pro Gly Ser Arg Ser Tyr Gly Trp Arg Asp Ser Val Val Leu Arg
        115                 120                 125
Ser Phe Leu Arg Ser Asn Ile Ser Ile Thr Ala Cys Asp Cys Tyr Leu
    130                 135                 140
Ser Tyr Trp Gly Phe Phe Cys Arg Asp His Gly Tyr Tyr Arg Asp Ala
145                 150                 155                 160
Val Asn Lys Ser

<210>593
<211>104
<212>PRT
<213>Chlamydia trachomatis
<400>593
Asn Ile Ser Ser Leu Val Leu Asn Leu Leu Gly Phe Met Arg Ser Leu
  1                 5                  10                  15
His Phe Leu Leu Thr Ala Phe Thr Phe Ser Leu Phe Cys Gly Ala Ala
             20                  25                  30
Leu Thr Ala Ser Ser Pro Lys Thr Leu Ser Phe Val Ala Ala Glu Ala
         35                  40                  45
Ala Gly Val Gly Ala Ala Arg Pro Ser Ser Val Ala Ser Leu Leu Asp
```

```
     50                  55                  60
Ser Ala His Glu Val Ala Lys Ser Ala Gly Val Gly Tyr Gly Ser Ala
 65                  70                  75                  80
Tyr Ile Leu Asn Glu Leu Gln Asn Leu Gln Ser Gln Glu Leu Glu Gly
                85                  90                  95
Leu Leu Ala Ser Gln Glu Asn Ile
            100
<210>594
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>594
Ser Ser Ile Phe Leu Arg Lys Ser Phe Ile Val Ala Glu Tyr Arg Ala
  1                 5                  10                  15
Ile Phe Val Met Ala Met Asn His Tyr Asn Asp Arg Gln Thr Leu Pro
            20                  25                  30
Ser Met Asp Glu Met Met Ser Leu Val Val Gly Thr Glu Ala Met Thr
        35                  40                  45
Leu Leu Val Ala Arg Arg Met Asn Thr Glu Leu Met Arg Asp Ile Val
     50                  55                  60
Val Gln Ser Ile Gln Lys Leu Leu Asp Lys His Trp Arg Asp Arg Lys
 65                  70                  75                  80
Arg Lys Leu Cys His Gln Thr Gly Lys Gly Leu Asp Ser Leu Gln Glu
                85                  90                  95
Tyr Val Arg Leu Ser Gly Glu Arg Val Lys Val Ser Leu Val Ser
            100                 105                 110
<210>595
<211>144
<212>PRT
<213>Chlamydia trachomatis
<400>595
Xaa His Ser Tyr Glu Gln Phe Thr Pro Arg Glu Lys Ala Arg Val Ile
  1                 5                  10                  15
Glu Glu Val Ile Gln Gln Val Arg Cys Trp Gly Ser Pro Ile Thr Ile
            20                  25                  30
His Glu Tyr Leu Arg Gln Leu Ala Ser Leu Val Lys Val Pro Glu Pro
        35                  40                  45
Ala Val Leu Ser Tyr Leu Ser Ser Ile Thr Ser Ala Ala Glu Asp Lys
     50                  55                  60
Gly Lys Lys Val Ser Ala Lys Glu Pro Ser Ser Glu Ser Glu Gln Thr
 65                  70                  75                  80
Ser Thr Glu Gly Lys Ile Ser Lys Lys Ile Ser Pro Arg Met Ile Leu
                85                  90                  95
Glu Ala Asp Val Ile Arg Cys Leu Leu Phe Ala Lys Pro Glu Asp Glu
            100                 105                 110
Phe Val Pro Ala Thr Val Lys Gln Tyr Leu Ser Pro Glu Glu Phe His
        115                 120                 125
Cys Gly Arg Ile Ser Ser Tyr Ile Cys Tyr Gly Tyr Glu Ser Leu Gln
    130                 135                 140
<210>596
<211>203
<212>PRT
<213>Chlamydia trachomatis
<400>596
Ser Gly Leu Gly Ile Ser Leu Lys Thr Gly Phe Cys Leu Leu Arg Ser
  1                 5                  10                  15
Ile Met Phe Pro Ile Gln Asp Ala Leu Gly Tyr Thr Ile Gly Phe Ser
            20                  25                  30
Ser Arg Arg Phe Lys Glu Gly Gly Arg Gly Gly Lys Tyr Ile Asn Ser
        35                  40                  45
Pro Glu Thr Ile Leu Phe Lys Lys Ser Arg Val Leu Tyr Gly Leu Gln
```

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     50                  55                  60
Phe Ser Arg Lys Arg Ile Ala Lys Glu Arg Arg Val Ile Leu Val Glu
 65                  70                  75                  80
Gly Gln Ala Asp Cys Leu Gln Met Ile Asp Phe Gly Phe Asn Cys Thr
                 85                  90                  95
Leu Ala Ala Gln Gly Thr Ser Phe Thr Glu Thr His Val His Glu Leu
            100                 105                 110
Val Lys Leu Gly Val Ser Lys Ala Tyr Leu Leu Phe Asp Gly Asp Ala
        115                 120                 125
Ala Gly Glu Lys Ala Ser Leu Arg Val Gly Asp Leu Cys Gln Ala Ala
    130                 135                 140
Gly Ile Thr Ala Ile Val Cys Arg Leu Pro Ser Gly Gln Asp Pro Asp
145                 150                 155                 160
Ser Phe Leu Met Gln Arg Gly Pro Glu Glu Leu Arg Glu Leu Leu Asp
                165                 170                 175
Arg Gly Glu Asp Tyr Leu Ser Phe Leu Val Trp His Lys Xaa Ile Leu
            180                 185                 190
Met Asn Ser Leu Leu Gln Glu Lys Lys Leu Glu
        195                 200
<210>597
<211>223
<212>PRT
<213>Chlamydia trachomatis
<400>597
Met Tyr Tyr Thr Glu Glu Ser Leu Glu Thr Leu Lys His Ser Ile Asp
  1                 5                  10                  15
Ile Val Ser Val Leu Gly Glu Tyr Val His Leu Lys Arg Ser Gly Ala
             20                  25                  30
Asp Tyr Lys Ala Cys Cys Pro Phe His Asp Glu Lys Thr Pro Ser Phe
         35                  40                  45
Ile Val Tyr Pro Thr Arg Gly His Tyr His Cys Tyr Gly Cys Gly Glu
     50                  55                  60
His Gly Asp Ala Ile Asn Phe Leu Met Lys Gln Gln Gly Tyr Ser Phe
 65                  70                  75                  80
Ser Glu Ala Val Leu Phe Leu Ala Lys Lys Phe His Val Asp Leu Val
                 85                  90                  95
Val Arg Thr Arg Glu Thr Ser Gly Gln Asp Ser Lys Asp Ser Phe Arg
            100                 105                 110
Arg Ile Asn Arg Glu Ala Glu Arg Phe Phe Gln Tyr Cys Leu Leu His
        115                 120                 125
Leu Pro Glu Gly Glu Glu Ala Leu Ala Tyr Leu Tyr Lys Arg Gly Phe
    130                 135                 140
Ser Pro Asp Thr Ile Asp Arg Phe Gln Ile Gly Tyr Ala Pro Glu Gln
145                 150                 155                 160
Arg Leu Phe Ile Gln Ala Met Glu Glu Arg Asn Ile Cys Val Lys Gln
                165                 170                 175
Leu Glu Trp Ala Gly Tyr Leu Ala Lys Asp Trp Phe Leu Phe Ala Gln
            180                 185                 190
Glu His His Val Pro Asp Ser Arg Cys Phe Arg Leu Tyr His Trp Ile
        195                 200                 205
Phe Phe Ser Glu Val Gln Arg Arg Trp Ala Trp Trp Lys Ile Tyr
    210                 215                 220
<210>598
<211>94
<212>PRT
<213>Chlamydia trachomatis
<400>598
Leu Tyr Leu Val Leu Arg Asp Arg Lys Asn Phe Leu Phe Val Val Gly
  1                 5                  10                  15
Glu Gln Ala Leu Met Tyr Gln Arg Thr Phe Glu Thr Arg Val Tyr Asn
             20                  25                  30
```

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Gly Val Glu Phe Leu Gly Asn Thr Arg Leu Trp Glu Ala Lys Phe Leu
          35                  40                  45
Arg Glu Lys Gly Ile His Gln Gly Glu Arg Ser Thr His Ser Gln Glu
      50                  55                  60
Asn Tyr Ser Ala Leu Pro Trp Arg Ile Leu Tyr Arg Arg Arg Ala Gly
 65                  70                  75                  80
Ile Ala Cys Lys Lys Ile Leu Tyr Asp Ala Tyr Ile His Glu
                 85                  90
```

<210>599
<211>457
<212>PRT
<213>Chlamydia trachomatis
<400>599

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Glu Pro Val Pro Leu Leu Arg Ile Lys Asn Phe Phe Asp His Ala Ile
  1               5                  10                  15
Leu Asp Lys Ala Met Thr His Lys Leu Thr Pro Met Met Gln Gln Trp
            20                  25                  30
His Gln Cys Lys Glu Gln Ala Gly Asp Cys Leu Leu Leu Phe Arg Leu
        35                  40                  45
Gly Glu Phe Tyr Glu Ala Phe Phe Asp Asp Ala Leu Ile Leu Ala Gln
      50                  55                  60
Asn Leu Asp Ile Thr Leu Thr Gln Arg Gln Asn Val Pro Met Ser Gly
 65                  70                  75                  80
Ile Pro Ala Thr Cys Leu Asp Gly Tyr Val Asp Arg Leu Val Ser Arg
                 85                  90                  95
Gly Phe Lys Val Ala Ile Ala Glu Gln Ala Asp Asn Thr Glu Gly Ser
            100                 105                 110
Lys Gly Leu Val Pro Arg Thr Ile Asn Arg Leu Ile Thr Pro Gly Ala
        115                 120                 125
Leu Leu Ser Ser Ser Leu Leu Pro Glu Lys Ala Asn Asn Tyr Val Leu
    130                 135                 140
Ala Ile Asn Gln Val Gly Ser Leu Tyr Gly Leu Ser Cys Leu Asp Leu
145                 150                 155                 160
Ser Ile Gly Thr Phe Leu Val Ala Glu Tyr Asp Asn Thr Lys Asp Leu
                165                 170                 175
Ile Glu Ala Ile Cys Arg Leu Ala Pro Thr Glu Leu Leu Ser His Ala
            180                 185                 190
Lys Phe Tyr Gln Lys Asn Ala Ala Val Ile Lys Gln Leu Gln Gln His
        195                 200                 205
Leu Arg Ile Thr Leu Ser Glu Tyr Val Ser Trp Ala Phe Glu Tyr Gln
    210                 215                 220
Ser Ala Thr Lys Lys Leu Tyr Thr Cys Phe Gln Val Ser Ser Leu Asp
225                 230                 235                 240
Gly Phe Gly Leu Gln Gly Leu Val Pro Ala Ile Asn Ala Ala Gly Ala
                245                 250                 255
Leu Leu Ser Tyr Ile Gln Asp Lys Leu Leu Leu Pro Ile Ser His Leu
            260                 265                 270
Ser Ile Pro Lys Ile Tyr Gly Gln Gln Lys His Leu Leu Ile Asp Lys
        275                 280                 285
Ala Ser Gln Thr Asn Leu Glu Leu Leu Ser Pro Ile His Gly Glu His
    290                 295                 300
Gly Lys Gly Ser Leu Leu Gln Val Met Glu Arg Thr Ser Thr Pro Met
305                 310                 315                 320
Gly Gly Arg Leu Leu Arg Asn Thr Leu Ile Asn Pro Phe Tyr Asp Leu
                325                 330                 335
Lys Glu Ile Thr Leu Arg Gln Asp Ser Val Glu Phe Phe Leu Gln Gln
            340                 345                 350
Glu Asp Leu Arg Lys Ile Leu Lys Arg Gln Leu Ser Cys Val Arg Asp
        355                 360                 365
Leu Glu Arg Leu Ala Thr Lys Ile Ser Thr Ser Leu Ala Thr Pro Lys
    370                 375                 380
```

```
Asp Ile Gly Thr Leu Arg Asp Ser Leu Leu Ser Cys Thr His Ile Ala
385                 390                 395                 400
Asn Asn Leu Gln Asn Cys Ala Leu Pro Glu Phe Leu Glu Asn Lys Phe
                405                 410                 415
Leu Ile Ala Pro Pro Leu Cys Ser Leu Ile Lys Thr Leu Ser Thr Glu
            420                 425                 430
Leu Ile Gln Glu Leu Pro Leu Lys Val Ser Glu Gly Ile Phe Ser Gln
        435                 440                 445
Thr Thr Ile Ile Gln Ile Phe Tyr Asp
    450                 455
<210>600
<211>425
<212>PRT
<213>Chlamydia trachomatis
<400>600
Val Phe Asp Cys Ser Pro Ser Met Leu Ser His Lys Asn Val Ile Asp
  1               5                  10                  15
Arg Ala Tyr Pro Arg Thr Ser Phe Lys Ser Val Arg Arg Asn Ile Phe
            20                  25                  30
Ala Asn His Tyr His Pro Asp Leu Leu Arg Leu Arg Asn Ile Lys Glu
        35                  40                  45
Asn Ser Lys Ser Trp Ile Leu Glu Tyr Gln Glu Arg Ile Arg Asn Glu
    50                  55                  60
Thr Gly Ile Lys Lys Leu Lys Val Cys Tyr Ala Gln Ala Leu Gly Tyr
65                  70                  75                  80
Tyr Ile Glu Val Ala Ser Asn Leu Ala Pro Gln Leu Pro Lys Glu Phe
                85                  90                  95
Ile Arg Arg Gln Ser Arg Leu His Ala Glu Arg Phe Thr Thr Gln Glu
            100                 105                 110
Leu Gln Gln Phe Gln Asp Glu Val Phe Ser Val Glu Asp Lys Leu Gln
        115                 120                 125
Thr Leu Glu Thr Lys Leu Phe Lys Glu Leu Cys Phe Tyr Ile Val Glu
    130                 135                 140
His Arg Asp Leu Ile Leu Lys Leu Ser Thr Ala Val Ala Asp Leu Asp
145                 150                 155                 160
Tyr Val Val Ser Leu Ala Glu Leu Ala Ala Glu Tyr Asp Tyr Arg Arg
                165                 170                 175
Pro Leu Val Asp His Ser Asp Ala Leu Ser Ile Thr Lys Gly Met His
            180                 185                 190
Pro Val Ala Leu Thr Leu Leu Asp Lys Gly Thr Phe Ile Pro Asn Asp
        195                 200                 205
Thr Val Met His Ser Ala Gln Thr Arg Met Ile Leu Leu Thr Gly Pro
    210                 215                 220
Asn Met Ala Gly Lys Ser Thr Tyr Ile Arg Gln Ile Ala Leu Leu Val
225                 230                 235                 240
Ile Met Ala Gln Met Gly Ser Phe Ile Pro Ala Arg Ser Ala His Ile
                245                 250                 255
Gly Ile Val Asp Lys Ile Phe Thr Arg Ile Gly Ala Gly Asp Asn Leu
            260                 265                 270
Ser Lys Gly Met Ser Thr Phe Met Val Glu Met Ala Glu Thr Ala Asn
        275                 280                 285
Ile Leu His Asn Ala Thr Asp Arg Ser Leu Val Ile Leu Asp Glu Ile
    290                 295                 300
Gly Arg Gly Thr Ser Thr Tyr Asp Gly Leu Ala Ile Ala Gln Ala Val
305                 310                 315                 320
Val Glu Phe Leu Leu Phe Thr Asp Gly Lys Lys Ala Lys Thr Leu Phe
                325                 330                 335
Ala Thr His Tyr Lys Glu Leu Thr Glu Leu Glu Met His Cys Gln His
            340                 345                 350
Val Glu Asn Phe His Ala Met Val Lys Glu Asn Ser Gly Gln Pro Ile
        355                 360                 365
```

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Phe Met Tyr Glu Ile Val Lys Gly His Ser Lys Lys Ser Phe Gly Ile
    370                 375                 380
His Val Ala Lys Leu Ala Gly Phe Pro Leu Ser Val Val Ser Arg Ala
385                 390                 395                 400
Gln Gln Ile Leu His Gln Phe Glu Gly Pro Asp Leu Arg Pro Glu Pro
                405                 410                 415
Glu Lys Ala Gln Gln Leu Val Met Phe
            420                 425
<210>601
<211>541
<212>PRT
<213>Chlamydia trachomatis
<400>601
Val Arg Ile Glu Asp Phe Ser Leu Lys Asp Val Ser Ser Ser Pro Gly
  1               5                  10                  15
Val Tyr Leu Met Lys Asp Ser Gln Gly Thr Val Leu Tyr Val Gly Lys
            20                  25                  30
Ala Lys Asn Leu Arg Asn Arg Leu Ser Ser Tyr Leu Gln Lys Lys Gly
        35                  40                  45
Asp Ser Arg Glu Arg Ile Pro Phe Leu Met Lys Lys Thr Thr Asp Ile
    50                  55                  60
Asp Thr Ile Val Val Ser Asn Glu Thr Glu Ala Ile Leu Leu Glu Asn
65                  70                  75                  80
Asn Leu Ile Lys Lys Tyr Gln Pro Arg Tyr Asn Val Leu Leu Lys Asp
                85                  90                  95
Asp Lys Thr Phe Phe Cys Leu Ser Val Ser Leu Glu His Pro Trp Pro
            100                 105                 110
Arg Ile Glu Ala Ile Arg Thr Arg Ala Leu Ser Pro Gly Lys Lys Lys
        115                 120                 125
Gln Trp Leu Phe Gly Pro Tyr Val Ser Ala Glu Ala Cys Tyr Ala Leu
    130                 135                 140
Leu Glu Val Ile Ser Leu Trp Phe Pro Leu Arg Thr Cys Ser Asp Arg
145                 150                 155                 160
Glu Phe Ser Thr Arg Gln Arg Pro Cys Val Leu Tyr Glu Met Lys Arg
                165                 170                 175
Cys Leu Ala Pro Cys Val Gly Leu Cys Ser Gln Thr Glu Tyr Gln Glu
            180                 185                 190
Thr Leu Asp Lys Ala Ile Leu Phe Leu Lys Gly Asp Val Arg Ser Thr
        195                 200                 205
Ile Ser Asn Leu Glu Lys Ala Ile Glu Lys Ala Ser Gln Glu Gln Lys
    210                 215                 220
Phe Glu His Ala Ala Ala Leu Tyr Arg Thr Leu Thr Leu Ile Arg Gln
225                 230                 235                 240
Thr Met Ala Lys Gln His Val Glu Lys Phe Gln Ala Tyr Asp Ile Asp
                245                 250                 255
Val Leu Gly Leu Tyr Arg Lys Gly Ser Leu Ala Ile Val Ser Val Leu
            260                 265                 270
Ser Val Tyr Ser Gly Lys Leu Leu Gly Ala Arg Tyr Phe Ile Phe Pro
        275                 280                 285
Glu Asn Ala Gln Glu Asp Ser Ala Leu Phe Pro Ser Phe Ile Leu Gln
    290                 295                 300
Tyr Tyr Ala Glu Asn Pro Arg Ile Pro Lys Glu Ile Phe Val Pro Val
305                 310                 315                 320
Ser Leu Asp Ser Pro Glu Leu Pro Tyr Leu Leu Asn Thr Ala Glu Pro
                325                 330                 335
Pro Lys Ile Arg Cys Pro Lys Thr Glu Tyr Gly Lys Glu Leu Leu Ala
            340                 345                 350
Leu Ala His Lys Asn Ala Ala Glu Gln Ala Lys Pro Phe Asn Ser Ile
        355                 360                 365
Thr Pro Pro Tyr Glu Glu Leu Gln His Phe Phe Asn Leu Ser Gln Tyr
    370                 375                 380
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Pro Tyr Arg Ile Glu Cys Tyr Asp Asn Ala His Leu Gln Gly Glu His
385                 390                 395                 400
Asn Val Gly Val Cys Ile Val Phe Glu Asn Asp Leu Phe Ser Pro Lys
                405                 410                 415
Gln Tyr Arg Thr Phe Ser Ile Thr Ser His Gly Asp Asp Leu Ala Ala
            420                 425                 430
Phe Glu Glu Val Leu Thr Arg Arg Phe Arg Ser Leu Thr Thr Glu Leu
        435                 440                 445
Pro Asn Leu Ile Val Ile Asp Gly Gly Arg Asn Gln Phe Lys Arg Ala
    450                 455                 460
Gln Arg Ile Leu Glu Glu Leu Asn Leu Thr Gly Ile Thr Val Val Thr
465                 470                 475                 480
Ile Ala Lys Glu Ser Gly Asn His Ser Lys Ser Cys Ala Lys Lys Ser
                485                 490                 495
Tyr Phe Val Lys Leu Ser Pro Lys Glu Ser Phe Phe Ile Pro His Pro
            500                 505                 510
Gln Phe Phe Ser Ser Phe Ser Tyr Tyr Glu Met Lys Pro Thr Val Ser
        515                 520                 525
Arg Phe Asn Thr Ile Val Lys Asn Met Gln Lys Gln Cys
    530                 535                 540
<210>602
<211>127
<212>PRT
<213>Chlamydia trachomatis
<400>602
Glu Phe Asn Arg Asp Tyr Arg Ser Asn His Arg Gln Gly Ile Trp Gln
  1                 5                  10                  15
Ser Gln Gln Lys Leu Arg Gln Glu Lys Leu Phe Cys Glu Thr Phe Pro
             20                  25                  30
Gln Gly Ile Leu Leu His Pro Thr Ser Ala Ile Leu Gln Phe Phe Gln
         35                  40                  45
Leu Leu Arg Asp Glu Ala His Arg Phe Ala Ile Gln His Tyr Arg Lys
     50                  55                  60
Lys His Ala Lys Ala Val Leu Thr Thr Lys Lys Ile Pro Gly Ile Gly
 65                  70                  75                  80
Glu Val Lys Thr Lys Arg Leu Leu Gln Lys Phe Lys Ser Trp Lys Arg
                 85                  90                  95
Val Phe Ile Ala Ser Glu Glu Glu Leu Lys Thr Val Gln Gly Ile Thr
            100                 105                 110
Ala Lys Asp Ile Gln Arg Ile Gln Glu Glu Gly Ala Lys Pro Glu
        115                 120                 125
<210>603
<211>144
<212>PRT
<213>Chlamydia trachomatis
<400>603
Ser Arg Tyr Arg Asp Pro Cys Asp Ser Ser Asp His Cys Ser Leu Leu
  1                 5                  10                  15
Ser Lys Asn Arg Trp Gly Phe Ile Ile Arg Xaa Arg Ile Ser Leu Thr
             20                  25                  30
Arg Phe Leu Asp Ala Ile Ser Lys Xaa Xaa Lys Gly Ile Tyr Val Glu
         35                  40                  45
Gln Asp Ser Lys Asn Ser Leu Val Lys Val Arg Val Glu Val Asn Val
     50                  55                  60
Asp Tyr Gly Val Ser Ile Pro Glu Lys Thr Glu Glu Ile Gln Gly Cys
 65                  70                  75                  80
Ile Val Ser Glu Ile Ser Glu Tyr Thr Gly Leu His Val Ala Ala Val
                 85                  90                  95
His Val Val Val Lys Gly Leu Thr His Pro Lys Ala Lys Asp Glu Glu
            100                 105                 110
Val Pro Ala Ile Glu Val Ile Glu Glu Pro Cys Leu Glu Glu Phe Ser
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        115                 120                 125
Ser Ala Glu Glu Tyr Leu Glu Glu Val Ser Val Ile Gln Thr Glu Glu
    130                 135                 140
<210>604
<211>178
<212>PRT
<213>Chlamydia trachomatis
<400>604
Leu Phe Thr Thr Asn Leu Lys Leu Gly Ser Pro Pro Met Asn Ser Gly
  1               5                  10                  15
Met Phe Pro Phe Thr Phe Phe Leu Leu Tyr Ile Cys Leu Gly Met Leu
             20                  25                  30
Thr Ala Tyr Leu Ala Asn Lys Lys Asn Arg Asn Leu Ile Gly Trp Phe
         35                  40                  45
Leu Ala Gly Met Phe Phe Gly Ile Phe Ala Ile Ile Phe Leu Leu Ile
     50                  55                  60
Leu Pro Pro Leu Pro Ser Ser Thr Gln Asp Asn Arg Ser Met Asp Gln
 65                  70                  75                  80
Gln Asp Ser Glu Glu Phe Leu Leu Gln Asn Thr Leu Glu Asp Ser Glu
                 85                  90                  95
Ile Ile Ser Ile Pro Asp Thr Met Asn Gln Ile Ala Ile Asp Thr Glu
            100                 105                 110
Lys Trp Phe Tyr Leu Asn Lys Asp Cys Thr Asn Val Gly Pro Ile Ser
        115                 120                 125
Ile Val Gln Leu Thr Ala Phe Leu Lys Glu Cys Lys His Ser Pro Glu
    130                 135                 140
Lys Gly Ile Asp Pro Gln Glu Leu Trp Val Trp Lys Lys Gly Met Pro
145                 150                 155                 160
Asn Trp Glu Lys Val Lys Asn Ile Pro Glu Leu Ser Gly Thr Val Lys
                165                 170                 175
Asp Glu

<210>605
<211>120
<212>PRT
<213>Chlamydia trachomatis
<400>605
Val Ser Arg Leu Thr Leu Pro Lys Asn Ala Arg Leu Leu Lys Arg Lys
  1               5                  10                  15
Gln Phe Val Tyr Val Gln Arg Asn Gly Arg Cys Cys Arg Ala Asp Gln
             20                  25                  30
Val Thr Leu Arg Val Val Pro Ser Arg His Ser Asn Thr Ser Lys Val
         35                  40                  45
Gly Ile Thr Val Ser Lys Lys Phe Gly Lys Ala His Gln Arg Asn Arg
     50                  55                  60
Phe Lys Arg Ile Val Arg Glu Ala Phe Arg His Val Arg Pro Asn Leu
 65                  70                  75                  80
Pro Gly Cys Gln Val Val Ile Ser Pro Arg Gly Asn Ser Gln Pro Asp
                 85                  90                  95
Phe Leu Lys Leu Ser Glu Glu Leu Leu Gln Arg Ile Pro Glu Ala Leu
            100                 105                 110
Pro Leu Ala Ser Ser Ser Arg Cys
        115                 120
<210>606
<211>99
<212>PRT
<213>Chlamydia trachomatis
<400>606
Ala Val Thr His Phe Thr Val Ala Leu Ile Glu Phe Gln Glu Leu Ala
  1               5                  10                  15
Lys Arg Ser Gln Gly Gln Ser His Val Asn Val Ala Glu Val Ile Ala
```

```
            20                  25                  30
Pro Leu Ala Glu Tyr Leu Thr Gln Phe Gly Glu Gln Asp Lys Glu Asn
        35                  40                  45
Gln Trp Arg Leu Glu Met Ile Ile Ser Gln Tyr Tyr Leu Asp Ala Gly
    50                  55                  60
Leu Pro Asn Ser Ala Leu Glu His Ala Lys Ile Ala Phe Glu Ser Ala
65                  70                  75                  80
Pro Gln Asp Ile Gln Ser Ser Ile Ser Arg Ser Leu Val His Ile Glu
                85                  90                  95
His Gln Ser
```

<210>607
<211>260
<212>PRT
<213>Chlamydia trachomatis
<400>607

```
Glu Phe Met Ser Ser Leu Arg Ile Ala Arg Ser Cys Ser Phe Lys Gln
 1               5                  10                  15
Lys Thr Leu Leu Ala Ala Leu Val Phe Phe Gly Leu Gly Ala Ser Gln
            20                  25                  30
Val Cys Ala Thr Pro Ser Asn Ser Arg Glu Ile Ala Trp Tyr Val Asp
        35                  40                  45
Tyr Gln Glu Ala Arg Asp Glu Ser Arg Glu Lys Asp Leu Pro Met Leu
    50                  55                  60
Leu Phe Phe Ser Gly Ser Asp Trp Asn Gly Ser Cys Met Lys Ile Arg
65                  70                  75                  80
Asp Glu Val Leu Ser Ser Ser Asp Phe Ile Ser Ala Val Ala Asp Gln
                85                  90                  95
Phe Val Cys Val Val Val Asp Phe Pro Arg His Thr Glu Leu Arg Asp
            100                 105                 110
Pro Leu Ile Asn Glu Gln Asn Glu Asp Leu Lys Asn Arg Leu Tyr Val
        115                 120                 125
Asn Thr Phe Pro Ser Leu Val Leu Leu Ser Pro Glu Glu Arg Ala Ile
    130                 135                 140
Tyr Lys Ile Glu Ser Phe Gly Asn Glu Asn Gly Ser Asn Leu Gly Glu
145                 150                 155                 160
Ser Leu Cys Arg Val Ile Ala Asn Asp Gln Glu Leu Glu Gln Val Phe
                165                 170                 175
Pro Leu Ile Pro Thr Leu Ser Ser Val Ala Leu Arg Lys Tyr Tyr Gln
            180                 185                 190
Leu Ala Glu Glu Leu Ser Arg Lys Asp Phe Met Ala Thr Ala Leu Glu
        195                 200                 205
Gln Gly Val Leu Cys Asp Asp Ser Phe Phe Leu Ser Glu Lys Phe Arg
    210                 215                 220
Gln Leu Val Glu Ala Gly Arg Met Asp Ser Glu Glu Cys Arg Ala Val
225                 230                 235                 240
Lys Asn Arg Leu Leu Glu Leu Asp Pro Glu Asn Glu Gln Ser Arg Ile
                245                 250                 255
Ser Gln Trp Leu
            260
```

<210>608
<211>500
<212>PRT
<213>Chlamydia trachomatis
<400>608

```
Leu Leu Ile Met Lys Gly Trp Ile Arg Ser Asn Ser Thr Lys Thr Arg
 1               5                  10                  15
Pro Phe Arg Met Asn Thr Ala Ile Asp Leu Phe Leu Tyr Asn Thr Leu
            20                  25                  30
Ser Arg Glu Lys Glu Arg Phe Leu Pro Val Asn Asp Pro Val Lys Leu
        35                  40                  45
```

```
Tyr Thr Cys Gly Pro Thr Val Tyr Asp Tyr Ala His Ile Gly Asn Phe
     50                  55                  60
Arg Thr Tyr Ile Phe Glu Asp Leu Leu Lys Arg Val Leu Leu Phe Leu
 65                  70                  75                  80
Gly Tyr Ser Val Tyr His Val Met Asn Ile Thr Asp Val Asp Asp Lys
                 85                  90                  95
Thr Leu Ala Gly Ala Arg Lys Lys Gly Cys Ser Leu Glu Lys Tyr Cys
            100                 105                 110
Gln Pro Tyr Ile His Ala Phe Phe Ala Asp Leu Glu Thr Leu His Ile
        115                 120                 125
Leu Lys Ala Asp Ala Tyr Pro His Ala Thr His Tyr Ile Pro Gln Met
    130                 135                 140
Ile Glu Ala Ile Gln Gln Leu Ile Asn Gln Gly Val Ala Tyr Ile Gly
145                 150                 155                 160
Gln Asp Gln Ser Val Tyr Phe Ser Ile Ser Gln Phe Pro Asn Tyr Gly
                165                 170                 175
Ala Leu Ser His Leu Asn Leu Glu Glu Leu Arg Asn Ser Ala Arg Ile
            180                 185                 190
Asp Ala Asp Glu Tyr Asp Lys Asp Asn Leu Cys Asp Phe Val Leu Trp
        195                 200                 205
Lys Ala Tyr Asp Pro Asp Arg Asp Gly Glu Ile Phe Trp Glu Ser Pro
    210                 215                 220
Phe Gly Lys Gly Arg Pro Gly Trp His Leu Glu Cys Ser Ile Met Ser
225                 230                 235                 240
Met Ser Leu Leu Gly Gln Ser Leu Asp Ile His Ala Gly Gly Val Asp
                245                 250                 255
Asn Ile Phe Pro His His Glu Asn Glu Ile Ala Gln Ser Glu Ser Leu
            260                 265                 270
Thr His Lys Pro Phe Val Arg Tyr Trp Leu His Ser His His Leu Leu
        275                 280                 285
Val Asp Arg Lys Lys Met Ser Lys Ser Leu Gly Asn Phe Phe Thr Leu
    290                 295                 300
Arg Asp Leu Leu Asp Gln Gly Phe Ser Gly Glu Glu Val Arg Tyr Leu
305                 310                 315                 320
Leu Leu Gln Gly His Tyr Arg Thr Gln Leu Asn Phe Thr Gln Glu Gly
                325                 330                 335
Leu His Ala Ser Arg Gln Ser Leu Lys Arg Leu Arg Asp Phe Ile Cys
            340                 345                 350
Arg Leu Glu Asp Pro Ser Tyr Pro Asp Asp Ile Ile His Pro Glu Val
        355                 360                 365
Ala Thr Ala Cys Gln Ser Phe Leu Glu Thr Phe Ile Thr Ser Leu Thr
    370                 375                 380
Asn Asp Leu Asn Ile Ser Ser Ser Leu Ala Ala Leu Phe Asp Phe Ile
385                 390                 395                 400
Arg Lys Ile Asn Ser Ser Ile Asp Gln His Thr Gly Ile Gln Thr Glu
                405                 410                 415
Thr Asp Ser Ser Val Phe Ser Lys Gln Asp Ala Gln His Ile Leu Ala
            420                 425                 430
Leu Leu Arg Lys Ile Asp Gln Val Leu Gly Val Leu Pro Phe Ser Gln
        435                 440                 445
Pro Asp Ile Pro Glu Glu Val Leu Leu Leu Val Glu Gln Arg Glu Ala
    450                 455                 460
Ala Arg Lys Val Lys Asn Trp Gln Glu Ala Asp Arg Leu Arg Asp Glu
465                 470                 475                 480
Ile Leu Ser Arg Gly Phe Ala Ile Glu Asp Gly Lys Thr Gly Met Lys
                485                 490                 495
Val Lys Lys Leu
            500
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<211>161
<212>PRT

<213>Chlamydia trachomatis
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Ser Arg Gly Glu Leu Ile Ala Leu Leu Phe Asp Glu Leu Val Cys Asp
20 25 30
Lys Leu Ile Ala Pro His His Ile Thr Asp His Pro Leu Glu Thr Thr
35 40 45
Pro Leu Cys Lys Thr Leu Arg Ser Gly Asp Glu Thr Leu Val Glu Arg
50 55 60
Phe Glu Ser Phe Cys Leu Gly Lys Glu Leu Cys Asn Ala Tyr Ser Glu
65 70 75 80
Leu Asn Asp Pro Leu Gln Gln Arg Lys Leu Leu Glu Glu Gln Met Arg
85 90 95
Lys Lys Ala Leu Asn Pro Asp Ser Glu Tyr His Pro Ile Asp Glu Glu
100 105 110
Phe Leu Glu Ala Leu Cys Gln Gly Met Pro Pro Ala Gly Gly Phe Gly
115 120 125
Ile Gly Ile Asp Arg Leu Val Met Met Leu Thr Asp Ala Ala Ser Ile
130 135 140
Arg Asp Val Leu Phe Phe Pro Val Met Arg Arg Ile Glu Ala Lys Lys
145 150 155 160
Asp

<210>610
<211>237
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<213>Chlamydia trachomatis
<400>610
Glu Ile Ala Lys Pro Phe Arg Lys Glu Thr Pro Lys Val Arg Phe Ala
1 5 10 15
Gly Arg Leu Val Leu Phe Arg Ser Met Gly Lys Asn Ala Phe Gly Gln
20 25 30
Ile Leu Asp Asn Asp Ala Lys Ile Gln Val Met Phe Asn Arg Asp Phe
35 40 45
Ser Ala Val Ala Gly Leu Ala Ala Asp Ala Gly Ile Ser Pro Ile Lys
50 55 60
Phe Ile Glu Lys Lys Leu Asp Leu Gly Asp Ile Leu Gly Leu Glu Gly
65 70 75 80
Tyr Leu Phe Phe Thr His Ser Gly Glu Leu Thr Val Leu Val Glu Thr
85 90 95
Val Thr Leu Leu Cys Lys Ser Leu Ile Ser Leu Pro Asp Lys His Ala
100 105 110
Gly Leu Ala Asp Lys Glu Ile Arg Tyr Arg Lys Arg Trp Ala Asp Leu
115 120 125
Ile Ser Ser Glu Asp Val Arg Lys Thr Phe Leu Thr Arg Ser Arg Ile
130 135 140
Leu Lys Leu Ile Arg Glu Tyr Met Asp Gln Gln Ser Phe Leu Glu Val
145 150 155 160
Glu Thr Pro Ile Leu Gln Thr Val Tyr Gly Gly Ala Glu Ala Thr Pro
165 170 175
Phe Val Thr Thr Leu Gln Gly Leu His Ala Glu Met Phe Leu Arg Ile
180 185 190
Ser Leu Glu Ile Ala Leu Lys Lys Leu Leu Val Gly Gly Met Ser Arg
195 200 205
Val Tyr Glu Ile Gly Lys Val Phe Arg Asn Glu Gly Ile Asp Arg Thr
210 215 220
His Asn Pro Glu Phe Thr Met Ile Glu Ala Ala Ser Met
225 230 235
<210>611
<211>150

<212>PRT
<213>Chlamydia trachomatis
<400>611
Gly Ala Cys Ser Ser His Val Trp Arg Ser Gln Leu Leu Val Leu Leu
1 5 10 15
Gln Asn Val Val Leu Arg Val Arg Arg Arg Ser Asn Arg Val Ala Glu
20 25 30
Thr Gly Ile His Trp Met Ser Tyr Gln Asp Ala Leu Asn Lys Ala Lys
35 40 45
Gln Glu Gly Lys His Val Ala Val Phe Phe Thr Gly Ser Asp Trp Cys
50 55 60
Ile Trp Cys Met Arg Met Gln Asp Gln Ile Leu Gln Thr Ala Ala Phe
65 70 75 80
Ser Glu Phe Asp Lys Gln Tyr Leu Cys Met Val Glu Ile Asp Phe Pro
85 90 95
His Asn Lys Glu Gln Thr Ala Glu Gln Lys Glu Gln Asn Arg His Leu
100 105 110
Lys Ser Leu Tyr Ser Val Asp Gly Phe Pro Thr Leu Val Phe Leu Asp
115 120 125
Ser Glu Gly Xaa Glu Val Ala Lys Met Gly Phe Glu Pro Gly Gly Gly
130 135 140
Gly His Met Phe Ile Asp
145 150
<210>612
<211>762
<212>PRT
<213>Chlamydia trachomatis
<400>612
Lys Arg Phe Ser Ile Lys Lys Arg Phe Met Asp Pro Thr His Gln Pro
1 5 10 15
Phe Arg Leu Tyr Ala Glu Val Ile Val Asn Ala Asn Ile Asn Lys Ile
20 25 30
Leu Asp Tyr Gly Ile Pro Ala Glu Leu Glu Asn Leu Val Thr Val Gly
35 40 45
Ser Val Val Lys Val Pro Leu Gln Arg Lys Leu Thr Asn Asp Lys Tyr
50 55 60
Lys Ile Ala Ile Val Leu Lys Ile Lys Ser Ser Ser Asp Phe Val His
65 70 75 80
Val Ile Gln Pro Ile Leu Asp Ile Ser Tyr Glu Gly Ile Thr Leu Pro
85 90 95
Gln Asp Leu Ile Asp Leu Ile Phe Trp Ile Ser Gln Tyr Tyr Phe Cys
100 105 110
Pro Leu Gly Ser Ala Val Ser Leu Phe Leu Pro Thr Val Tyr Ala Gln
115 120 125
Thr His Ser Thr Lys His Gln Asn Asn Val Phe Leu Gly Gln Asn Ala
130 135 140
Glu Arg Thr Gln Glu Ile Leu Lys Thr Leu Asp Asn Pro Gln Gln Ile
145 150 155 160
Ala Val Leu Arg Lys Leu Leu Lys Thr Thr Lys Pro Leu Thr Pro Pro
165 170 175
Glu Leu Met Arg Lys Thr Glu Val Ser Ala Lys Thr Leu Asp Ala Leu
180 185 190
Val Lys Gln Lys Phe Ile Arg Ile Val Asp Ser Ala Asp Leu Glu Ile
195 200 205
Gln Asp Glu Gln Leu His Tyr Phe Leu Pro Glu Thr Pro Thr Leu Asn
210 215 220
Gln Glu Gln Leu Asp Ala Ile Asn Thr Ile Ser Gln Ser Leu Val Ala
225 230 235 240
Glu Gln Phe Gln Thr Cys Leu Leu Phe Gly Val Thr Gly Ser Gly Lys
245 250 255
Thr Glu Val Tyr Leu Gln Val Ile Arg Lys Ala Arg Ala Leu Gly Lys

SEQUENCE LISTING

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                260                 265                 270
Ser Val Ile Leu Leu Val Pro Glu Val Ala Leu Thr Ile Gln Thr Leu
        275                 280                 285
Ser Phe Phe Lys Met His Phe Gly Ser Glu Val Gly Val Leu His Tyr
    290                 295                 300
Lys Leu Ser Asp Ser Glu Arg Thr Gln Thr Trp His Lys Ala Ser Arg
305                 310                 315                 320
Gly Leu Ile Asn Ile Ile Ile Gly Pro Arg Ser Ala Ile Phe Cys Pro
                325                 330                 335
Ile Gln Asn Leu Gly Leu Ile Ile Val Asp Glu Glu His Asp Ser Ala
            340                 345                 350
Tyr Lys Gln Ser Asp Leu Pro Pro Phe Tyr Gln Ala Arg Asp Val Ala
        355                 360                 365
Val Met Arg Gly Lys Met Thr Asn Ala Thr Val Ile Leu Gly Ser Ala
    370                 375                 380
Thr Pro Ser Leu Glu Ser Tyr Thr Asn Ala Leu Ser Lys Lys Tyr Thr
385                 390                 395                 400
Leu Ser Val Leu Ser Lys Arg Ala Ser Thr Ser Thr Pro Thr Lys Val
                405                 410                 415
Phe Leu Ile Asp Met Asn Leu Glu Ile Glu Lys Thr Arg Lys Lys Pro
            420                 425                 430
Phe Phe Ser Gln Thr Val Ile Arg Ser Ile Glu Gln Arg Leu Glu Val
        435                 440                 445
Gly Glu Gln Thr Ile Ile Phe Phe Asn Arg Arg Gly Phe His Thr Asn
    450                 455                 460
Val Ser Cys Ser Ser Cys Lys Tyr Thr Leu Lys Cys Pro His Cys Asp
465                 470                 475                 480
Met Ile Leu Thr Phe His Lys Thr Glu Arg Ile Leu Leu Cys His Leu
                485                 490                 495
Cys Asn Thr Arg Leu Ser Lys Pro Ile Thr Ser Cys Pro Gln Cys Leu
            500                 505                 510
Gly Thr Met Thr Leu Gln Tyr Arg Gly Thr Gly Thr Glu Lys Ile Glu
        515                 520                 525
Thr Leu Leu Arg Glu Phe Phe Pro Thr Ala Arg Thr Ile Arg Leu Asp
    530                 535                 540
Ser Asp Thr Thr Arg Phe Arg Gly Ser His Asp Ala Leu Val Lys Gln
545                 550                 555                 560
Phe Ala Thr Gly Lys Ala Asp Ile Leu Ile Gly Thr Gln Met Ile Ala
                565                 570                 575
Lys Gly Met His Phe Pro Ala Val Thr Leu Ser Val Val Leu Ser Gly
            580                 585                 590
Asp Ser Gly Leu Tyr Ile Pro Asp Phe Arg Ala Ala Glu Gln Val Phe
        595                 600                 605
Gln Leu Ile Thr Gln Val Thr Gly Arg Ser Gly Arg Ser His Leu Pro
    610                 615                 620
Gly Glu Val Leu Ile Gln Thr Phe Leu Pro Gln Asn Ser Thr Ile Ser
625                 630                 635                 640
His Ala Leu Ala Gln Asp Phe Pro Ala Phe Tyr Lys Glu Glu Ile Leu
                645                 650                 655
Gly Arg Lys Val Cys Asn Tyr Pro Pro Phe Thr Arg Leu Ile Arg Cys
            660                 665                 670
Ile Phe Leu Gly Lys Cys Ser Asp Tyr Thr Leu Lys Glu Thr Gln Arg
        675                 680                 685
Val His Thr Leu Ile Lys Gln Asn Leu Asp Ser Gln Ala Ser Leu Met
    690                 695                 700
Glu Ile Ser Pro Cys Gly His Phe Lys Val Lys Asp Leu Phe His Tyr
705                 710                 715                 720
Gln Phe Leu Ile Lys Thr Arg Asn Ile Leu Val Ala Asn Lys Gln Ile
                725                 730                 735
Gln Glu Ala Leu Ala Ala Ala Lys Leu Ser Ser Lys Val Arg Cys Ile
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Val Asp Val Asp Pro Val Thr Thr Phe Phe
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<211>381
<212>PRT
<213>Chlamydia trachomatis
<400>613
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20 25 30
Ala Arg Tyr Arg Leu Tyr Cys Arg Asp Lys Pro His Ala Gln Leu Gly
35 40 45
Tyr Gly Gly Ser Arg Ala Ile Leu Gly Ser Ser Ser Leu Leu Asp Gly
50 55 60
Val Glu His Gln Ile Ala His Phe His Gly Ala Pro Glu Ala Leu Ile
65 70 75 80
Leu Pro Ser Gly Phe Val Ala Asn Thr Ala Ile Cys Ala His Leu Ser
85 90 95
Ser Val Ala Asp Tyr Val Leu Trp Asp Glu Gln Val His Ile Ser Val
100 105 110
Ser Tyr Asn Leu Ser Val Phe Leu Ser Gly Trp His Gln Ser Phe Arg
115 120 125
His Asn Asp Leu Asp His Leu Glu Ser Leu Leu Glu Ser Cys Gln Gln
130 135 140
Arg Gly Phe Gln Arg Val Phe Ile Leu Val Cys Ser Val Tyr Ser Phe
145 150 155 160
Lys Gly Ser Phe Ala Pro Leu Glu Gln Ile Val Ala Leu Ser His Gln
165 170 175
Tyr His Ala Gln Leu Ile Val Asp Glu Ala His Ala Val Gly Leu Phe
180 185 190
Gly Asp Ala Gly Lys Gly Phe Cys Ala Ser Leu Gly Tyr Glu Asn Phe
195 200 205
Tyr Ser Val Leu Val Thr Phe Ser Lys Ala Leu Gly Ser Ala Gly Ala
210 215 220
Ala Trp Leu Ser Ser Cys Asp Arg Lys Gln Asp Leu Ile Lys Glu Pro
225 230 235 240
Met Val Ser Leu Ser Thr Gly Ile Pro Pro Tyr Leu Leu Val Ser Ile
245 250 255
Gln Val Ala Tyr Glu Phe Leu Ser Gln Glu Gly Glu Leu Ala Arg Thr
260 265 270
Arg Leu Arg Arg Ile Arg Asp Tyr Phe Ala Gln Lys Ile Ser Trp Ala
275 280 285
Ala Ala Gly Phe Val Gln Pro Leu Ser Leu Pro Gly Ile Ser Glu Gln
290 295 300
Glu Leu Tyr Gln Lys Leu Val Ala Thr Gly Ile Arg Val Gly Val Ala
305 310 315 320
Cys Pro Pro Thr Gly Lys Val Leu Arg Ala Asn Leu His Ala Phe Asn
325 330 335
Thr Glu Gln Glu Val Asp Ile Leu Val Ser Leu Leu Ala Thr Glu Gln
340 345 350
Val Thr Tyr Gln Lys Asn Val Val Thr Gly Ser Thr Ser Thr Met Gln
355 360 365
Arg Thr Leu Glu Asp Asn Phe Ala Ala Ala Asn Ala Ser
370 375 380
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<211>538
<212>PRT
<213>Chlamydia trachomatis
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Glu Met Arg Asp Asn Arg Asn Thr Ala Arg Ser Lys Arg Gly Lys Leu

09646346.030606

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Arg Ser Glu Lys Thr Val Leu Arg Ser Phe Leu Lys Leu Cys Ala Glu
            20                  25                  30
Met Thr Thr Ala Thr Val Phe Trp Asp Glu Gln Leu Gly Lys Leu Ser
        35                  40                  45
Tyr Asn Gln Val Tyr Lys Ala Val Cys Ala Leu Ala Thr Arg Leu Ala
    50                  55                  60
Asn Tyr Pro Asp Gln His Ile Gly Ile Met Met Pro Ala Ser Ala Gly
65                  70                  75                  80
Ala Tyr Ile Ala Tyr Phe Ala Thr Leu Leu Ser Gly Lys Ile Pro Val
                85                  90                  95
Met Ile Asn Trp Ser Gln Gly Leu Arg Glu Val Thr Ala Cys Ala Asn
            100                 105                 110
Leu Val Gly Val Thr His Val Ile Thr Ala Lys Pro Leu Met Gln Lys
        115                 120                 125
Leu Ala Gln Thr His Gly Glu Asp Ala Glu Tyr Pro Phe Ser Leu Xaa
    130                 135                 140
Phe Leu Asp Glu Val Arg Lys Glu Leu Ser Phe Leu Glu Lys Cys Arg
145                 150                 155                 160
Val Gly Ile Cys Met Ser Ile Pro Phe Glu Trp Met Met Arg Trp Phe
                165                 170                 175
Gly Val Phe Asp Lys Asp Pro Glu Asp Val Ala Val Ile Leu Phe Thr
            180                 185                 190
Ser Gly Thr Glu Lys Leu Pro Lys Gly Val Pro Leu Thr Asn Ala Ser
        195                 200                 205
Leu Leu Ala Asn Gln Arg Ala Cys Phe Asp Cys Phe Ser Pro Lys Glu
    210                 215                 220
Asp Asp Ala Met Ile Ser Phe Leu Pro Pro Phe His Ala Tyr Gly Phe
225                 230                 235                 240
Asn Ser Cys Thr Leu Phe Pro Leu Leu Ser Gly Ile Pro Val Val Phe
                245                 250                 255
Ala Tyr Asn Pro Leu Tyr Ala Lys Lys Ile Val Glu Met Ile Asp Glu
            260                 265                 270
Ala Lys Val Thr Leu Leu Gly Ser Thr Pro Val Phe Leu Ser Tyr Ile
        275                 280                 285
Ile Asn Ala Ala Lys Lys Ser Glu Thr Thr Leu Pro Ser Leu Arg Phe
    290                 295                 300
Val Val Val Gly Gly Asp Val Phe Lys His Ser Leu Tyr Gln Glu Ala
305                 310                 315                 320
Leu Lys Thr Phe Pro His Val Gln Leu Arg Gln Gly Tyr Gly Thr Thr
                325                 330                 335
Glu Cys Ser Pro Val Ile Thr Ile Asn Thr Val Asn Ser Pro Lys His
            340                 345                 350
Glu Ser Cys Val Gly Met Pro Val Arg Gly Met Glu Val Leu Ile Val
        355                 360                 365
Ser Glu Glu Thr Lys Val Pro Val Ser Thr Gly Val Thr Gly Leu Val
    370                 375                 380
Leu Thr Arg Gly Thr Ser Leu Phe Lys Gly Tyr Leu Gly Glu Asp Phe
385                 390                 395                 400
Gly His Gly Phe Ile Glu Leu Ala Gly Glu Thr Trp Tyr Val Thr Gly
                405                 410                 415
Asp Leu Gly Tyr Val Asp Arg His Gly Glu Leu Phe Leu Lys Gly Arg
            420                 425                 430
Leu Ser Arg Phe Val Lys Ile Gly Ala Glu Met Val Ser Leu Glu Ala
        435                 440                 445
Met Glu Ser Ile Ile Met Glu Gly Cys Gly Gln Asn Ala Ala Asp His
    450                 455                 460
Pro Leu Val Val Cys Gly Leu Pro Gly Glu Lys Glu Arg Leu Cys Leu
465                 470                 475                 480
Phe Thr Ile Phe Pro Thr Ser Val Ser Glu Val Asn Asp Ile Leu Lys
                485                 490                 495
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Asn Ser Lys Thr Ser Asn Leu Leu Lys Ile Ser Tyr His His Gln Val
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Glu Ala Ile Pro Met Leu Gly Thr Gly Lys Pro Asp Tyr Cys Ser Leu
515 520 525
Asn Ala Leu Ala Lys Arg Leu Phe Ser Glu
530 535

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<212>PRT
<213>Chlamydia trachomatis
<400>615
Leu Arg His Arg Ile Trp Gly Ser Ser Phe Ser Arg Tyr Arg Thr Gly
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Ser Thr Pro Lys Leu Gly Lys Val Phe Lys Glu Ala Val Lys Ala Leu
20 25 30
Leu Arg Cys Gly Ile Phe Phe Met Pro Lys Arg Glu Val Arg Val Ser
35 40 45
Val Cys Pro Ala Asp Tyr Ser Val Leu Lys Gln Phe Pro Thr Lys Gln
50 55 60
Glu Phe Asn Thr Phe Leu Ser Asp Trp Phe Asn Gln Glu Gly Gly Glu
65 70 75 80
Thr Pro Leu Glu Val Pro Tyr Ala
85

<210>616
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<212>PRT
<213>Chlamydia trachomatis
<400>616
Ser His Asp Ile Phe Leu Ile Ile Asn Glu Lys Asn Ser Ser Phe Gln
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Asn Ala Asn Leu Leu Ile Trp Ile Trp Lys Tyr Cys Thr Leu Trp Cys
20 25 30
Lys Asn Asn Phe Asn Lys Pro Arg Gly Ser Met Lys Ile Gly Phe Trp
35 40 45
Arg Arg Leu Tyr Glu Val Cys Tyr Thr Ser Leu Ile Gly Cys Ala Leu
50 55 60
Lys Leu Arg Tyr Arg Val Leu Val Glu Gly Ile Glu Ser Ile Asn Gln
65 70 75 80
Asn Ser Gln Lys Gly Ala Leu Phe Leu Ser Asn His Val Ala Glu Ile
85 90 95
Asp Pro Val Ile Leu Glu His Val Phe Trp Leu Lys Phe His Val Arg
100 105 110
Pro Ile Ala Val Asp Tyr Leu Phe Asn Asn Pro Val Val Lys Trp Phe
115 120 125
Leu Asp Ser Val Arg Ala Ile Pro Val Pro Ser Val Val Pro Gly Arg
130 135 140
Asp Asp Lys Arg Leu Leu Glu Arg Ile Glu Arg Phe Tyr Val Cys Val
145 150 155 160
Thr Gln Ala Leu Asp Arg Lys Glu Ser Leu Leu Leu Tyr Pro Ser Gly
165 170 175
Arg Leu Ser Arg Asn Gly Lys Glu Glu Ile Val Asn Gln Gln Ala Ala
180 185 190
Tyr Thr Ile Leu His Arg Ala Lys Glu Cys Asp Val Phe Leu Val Lys
195 200 205
Thr Gln Asp Leu Gly Lys Phe Phe Phe Thr Leu
210 215

<210>617
<211>354
<212>PRT
<213>Chlamydia trachomatis
<400>617

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Val Ile Val Thr Ser Leu Gln Pro Ala Glu Lys Leu Met Phe Ser Leu
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Leu Asn Asp Cys Gln Lys Ala Ala Glu Thr Val Val Met Gln Ala Met
            20                  25                  30
Leu Ser Leu Met Arg Tyr Arg Lys Ala His Lys Phe Ile Pro Phe Trp
        35                  40                  45
Lys Lys Pro Asp Gln Thr Tyr Val Thr Pro Ala Asp Tyr Ala Ile Gln
    50                  55                  60
Tyr Tyr Phe Tyr Gln Lys Leu Thr Ser Leu Phe Pro His Ile Pro Leu
65                  70                  75                  80
Val Gly Glu Glu Thr Leu Asn Pro Ala Thr Asp His Pro Arg Ile Pro
                85                  90                  95
Gln Ile Leu Gln Phe Ala Gln Gln Leu Asp Pro Lys Val Ser Cys Gln
            100                 105                 110
Asp Leu Tyr Gln Ala Leu Ser Pro Glu Ser Ser His Ser Ser Leu Phe
        115                 120                 125
Trp Leu Thr Asp Pro Ile Asp Gly Thr Ser Gly Phe Ile Lys Gln Arg
    130                 135                 140
Cys Phe Ala Ile Ala Leu Ser Leu Phe Tyr Glu His Thr Pro Val Leu
145                 150                 155                 160
Ser Val Ile Ala Cys Pro Ser Ser Lys Asn Asn Ser Phe Lys Ile Tyr
                165                 170                 175
Ser Ala Ala Lys Gly Lys Gly Leu Thr Ile Cys Asn Pro Thr His Ser
            180                 185                 190
Phe Pro Phe Ser Leu His Glu Asp Phe Gln Pro Thr Cys Lys Phe Cys
        195                 200                 205
Glu Ala Ser Leu Ser Ala Arg Asn His Gln His Leu Ala Thr His Ile
    210                 215                 220
Leu Ser Lys His Leu Pro Trp Asn Pro Gln Pro Ile Arg Ala Asp Ser
225                 230                 235                 240
Gln Cys Lys Tyr Ala Trp Val Ala Asp Asn Thr Val Asp Phe Phe Ile
                245                 250                 255
Arg Ile Pro Tyr Ser Pro Pro Arg Ala His Tyr Arg Asp His Ala Pro
            260                 265                 270
Gly Val Phe Leu Ile Glu Glu Ala Gly Gly Leu Val Thr Asp Ile Ser
        275                 280                 285
Gly Asn Pro Leu Pro Phe Ser Asn Pro Asn Leu Tyr Leu Asp Arg His
    290                 295                 300
Pro Leu Ile Leu Ala Ser Ala Asn Glu Gln Met His Ser Thr Ile Leu
305                 310                 315                 320
Glu Thr Leu Tyr Lys Leu Arg His Gln Ala Thr Gln Asn Met Leu Pro
                325                 330                 335
Leu Ala Thr His Val Ser Ala Thr Lys His Lys Gln Leu Ser Ala Leu
            340                 345                 350
Gln Leu
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<210>618
<211>346
<212>PRT
<213>Chlamydia trachomatis
<400>618

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Met Lys Tyr Ser Leu Gln Ile Glu Asp Leu His Ile Glu Gly Tyr Glu
 1               5                  10                  15
Gln Val Leu Lys Val Thr Cys Glu Ser Val Gln Leu Val Ala Val Ile
            20                  25                  30
Ala Ile His Gln Thr Lys Val Gly Pro Ala Leu Gly Gly Ile Arg Ala
        35                  40                  45
Phe Pro Tyr Leu Gln Phe Glu Asp Gly Leu Gln Asp Ala Leu Arg Leu
    50                  55                  60
Ser Lys Ala Met Thr Tyr Lys Ala Leu Leu Ser Ser Thr Glu Thr Gly
65                  70                  75                  80
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Gly Gly Lys Ser Val Ile Phe Leu Pro Lys Gly Met Thr Ser Pro Thr
85 90 95
Glu Gly Met Leu Arg Ala Phe Gly Gln Ala Val Asn Ser Leu Gln Gly
100 105 110
Lys Tyr Ile Ala Ala Glu Asp Val Gly Val Ser Val Gln Asp Val Met
115 120 125
Ile Ile Arg Glu Glu Thr Pro Tyr Val Cys Gly Leu Val Thr Val Ser
130 135 140
Gly Asp Pro Ser Ile Tyr Thr Ala His Gly Val Phe Leu Cys Ile Gln
145 150 155 160
Glu Thr Ala Asp Tyr Leu Trp Lys Thr Asp Ile Arg Gly Lys Arg Val
165 170 175
Ala Val Gln Gly Leu Gly Ala Val Gly Arg Lys Leu Val His Glu Leu
180 185 190
Phe Phe Ala Gly Ala Glu Leu Ile Val Tyr Asp Thr Arg Lys Asp Leu
195 200 205
Leu Asp Glu Val Val Thr Leu Tyr Gly Ala Gln Val Asp Glu Asn Ile
210 215 220
Ile Ser Ser Asp Cys Asp Ile Leu Cys Pro Cys Ala Leu Gly Gly Ile
225 230 235 240
Ile Asn Ser Met Ser Ile Asp Gln Leu Arg Cys Arg Ala Ile Val Gly
245 250 255
Ala Thr Asn Asn Gln Leu Glu Asn Pro Ala Ile Gly Arg Glu Leu Val
260 265 270
Ala Arg Gly Ile Leu Tyr Ala Pro Asp Tyr Leu Ala Asn Ala Gly Gly
275 280 285
Leu Leu Asn Val Ala Gly Ser Val Gly Arg Ala Tyr Ser Pro Lys Glu
290 295 300
Val Leu Ser Lys Val Glu Gly Leu Pro Lys Ile Leu Arg Lys Leu Tyr
305 310 315 320
Glu Gln Gly Ala Lys Glu Asn Arg Asp Thr Gly Thr Leu Ala Asp Ala
325 330 335
Ile Val Glu Glu Arg Leu Ala Val Tyr Ala
340 345

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<212>PRT
<213>Chlamydia trachomatis
<400>619
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Ala His Pro Trp His Gly Pro Val Leu Thr Arg Asp Asp Tyr Glu Ser
20 25 30
Leu Cys Cys Tyr Ile Glu Ile Thr Pro Ala Asp Ser Val Lys Phe Glu
35 40 45
Leu Asp Lys Glu Thr Gly Ile Leu Lys Val Asp Arg Pro Gln Lys Phe
50 55 60
Ser Asn Phe Cys Pro Cys Leu Tyr Gly Leu Leu Pro Lys Thr Tyr Cys
65 70 75 80
Gly Asp Leu Ser Gly Glu Tyr Ser Gly Gln Gln Ser Asn Arg Glu Asn
85 90 95
Ile Lys Gly Asp Gly Asp Pro Leu Asp Ile Cys Val Leu Thr Glu Lys
100 105 110
Asn Ile Thr Gln Gly Asn Ile Leu Leu Gln Ala Arg Pro Ile Gly Gly
115 120 125
Ile Arg Ile Leu Asp Ser Glu Glu Ala Asp Asp Lys Ile Ile Ala Val
130 135 140
Leu Glu Asp Asp Leu Val Tyr Gly Asn Ile Glu Asp Ile Ser Glu Cys
145 150 155 160
Pro Gly Thr Val Leu Asp Met Ile Gln His Tyr Phe Leu Thr Tyr Lys
165 170 175

Ala Thr Pro Glu Ser Leu Ile Gln Ala Lys Pro Ala Lys Ile Glu Ile
180 185 190
Val Gly Leu Tyr Gly Lys Lys Glu Ala Gln Lys Val Ile Arg Leu Ala
195 200 205
His Glu Asp Tyr Cys Asn Leu Phe Met
210 215
<210>620
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<212>PRT
<213>Chlamydia trachomatis
<400>620
Ser Phe Tyr Tyr Leu Cys Ser Cys Ser Arg Lys Glu Gly Asn Ser Tyr
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Val Arg Trp Asp Gln Asp Thr Leu Pro Ala Asp Ser His Arg Cys Gly
20 25 30
Val Ile Ile Gly Ser Gly Met Gly Gly Leu Arg Thr Leu Asp Glu Gly
35 40 45
Ile Glu Lys Leu Ser Ala Gly Asn Arg Lys Leu Ser Pro Phe Phe Ile
50 55 60
Pro Tyr Ile Ile Thr Asn Met Ala Pro Ala Leu Ile Ala Met Asp Tyr
65 70 75 80
Gly Leu Met Gly Pro Asn Tyr Ser Ile Ser Thr Ala Cys Ala Thr Ala
85 90 95
Asn Tyr Cys Ile Asp Ala Ala Tyr Gln His Leu Ile Glu Gly Arg Ala
100 105 110
Asp Val Ile Val Cys Gly Gly Thr Glu Ala Ala Ile Asn Arg Val Gly
115 120 125
Leu Ala Gly Phe Ile Ala Asn Arg Ala Leu Ser Glu Arg Asn Asp Ala
130 135 140
Pro Glu Gln Ala Ser Arg Pro Trp Asp Arg Asp Arg Asp Gly Phe Val
145 150 155 160
Leu Gly Glu Gly Ala Gly Ile Leu Val Leu Glu Thr Leu Asp Asn Ala
165 170 175
Leu Lys Arg Gly Ala Pro Ile Phe Ala Glu Val Leu Gly Thr Tyr Lys
180 185 190
Thr Cys Asp Ala Phe His Ile Thr Ala Pro Arg Asp Asp Gly Glu Gly
195 200 205
Ile Thr Ala Cys Ile Leu Gly Ala Leu Asn Lys Ala Gly Ile Pro Lys
210 215 220
Glu Arg Val Asn Tyr Ile Asn Ala His Gly Thr Ser Thr Pro Leu Gly
225 230 235 240
Asp Leu Ser Glu Val Leu Ala Leu Lys Lys Ala Phe Gly Ser His Val
245 250 255
Lys Asn Leu Arg Leu Asn Ser Thr Lys Ser Leu Ile Gly His Cys Leu
260 265 270
Gly Ala Ala Gly Gly Val Glu Ala Val Ala Thr Ile Gln Ala Ile Gln
275 280 285
Thr Gly Lys Leu His Pro Thr Ile Asn Val Glu Asn Pro Ile Ala Glu
290 295 300
Ile Glu Glu Phe Asp Val Val Ala Asn Lys Ala Gln Asp Trp Asp Val
305 310 315 320
Asp Val Ala Met Ser Asn Ser Phe Gly Phe Gly Gly His Asn Ser Thr
325 330 335
Ile Leu Phe Ser Arg Tyr Glu Pro Ser Leu
340 345
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<212>PRT
<213>Chlamydia trachomatis
<400>621
Met Asp Ser Phe Cys Leu Asn Leu Leu Lys Val Ile Val Lys Ala Ile

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  1               5                  10                  15
Asp Asn Lys Lys Gly Arg Asn Pro Val Val Leu Asp Val Gln Asn Ile
            20                  25                  30
Ser Gln Leu Thr Asp Tyr Phe Val Phe Val Glu Gly Asn Val Gly Val
        35                  40                  45
His Ile Lys Ala Ile Ala Asp Thr Ile Ile Glu Glu Leu Lys Lys Leu
    50                  55                  60
Lys Val Tyr Pro Leu Asn Val Glu Gly Leu Ser His Ser Asp Trp Val
65                  70                  75                  80
Val Ile Asp Tyr Gly Phe Ile Val Ile His Leu Phe Val Ser Ser Xaa
                85                  90                  95
Arg Glu Gln Tyr Cys Leu Glu Glu Leu Trp Lys Asp Gly Ala Ile Ile
            100                 105                 110
Thr Ser Asp Cys Leu Ala Ser
        115
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Cys Ile Ala Arg Ala Asn Phe Asp Tyr Gln Leu Phe Phe Leu Ser Arg
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Leu Thr Leu Thr Asn Ser Tyr His Met Asp Ile Pro Glu Gln Gly Ser
            20                  25                  30
Asn Thr Pro Glu Val Glu Gln Ala Ala Cys Cys Asn Gln Glu Ala Ala
        35                  40                  45
Glu Asn Asp Arg Ala Lys Asp Lys Leu Ser Ser Ser Glu Ile Ser Ala
    50                  55                  60
Glu Ala Val Gln Ser Cys Glu Ser Met Glu Ala Phe Glu Gln Val Val
65                  70                  75                  80
Ala Glu Arg Ser Ser Ile Glu Glu Lys Ile Leu Phe Ala Leu Glu Gln
                85                  90                  95
Met Gly Ala Leu Leu Lys Gly Ala Asp Gln Asn Ser Asp Leu Lys Leu
            100                 105                 110
Phe Trp Asn Val Arg Lys Phe Cys Leu Pro Leu Phe Gln Gln Leu Glu
        115                 120                 125
Asp Pro Val Gln Arg Ala Asn Leu Trp Gly Arg Tyr Thr Glu Leu Thr
    130                 135                 140
Arg Glu Gly Arg Tyr Ile Lys Thr Leu Gln Asp Glu Glu Gly Ala Phe
145                 150                 155                 160
Leu Val Gly Gln Ile Glu Leu Ala Ile Ser Cys Leu Glu Ser Gly Val
                165                 170                 175
Gln Gly Phe Phe Ser Lys Thr Glu Lys Glu Glu Ile Ser Glu Glu Asp
            180                 185                 190
Arg Ala Ala Leu Glu Ile Pro Ser Leu Ser Ala His Lys Asp Phe Tyr
        195                 200                 205
Leu Ser Thr His Ala Asp Leu Arg Trp Leu Gly Ser Phe Ser Ser Gln
    210                 215                 220
Ile Ile Asn Leu Arg Lys Glu Leu Met Asn Ile Ser Met Arg Met Arg
225                 230                 235                 240
Leu Lys Ser Gln Phe Phe Gln Lys Leu Ser Val Leu Gly Asn Lys Val
                245                 250                 255
Phe Pro Arg Arg Lys Glu Leu Thr Glu Lys Val Ser Glu Leu Phe Ala
            260                 265                 270
Gln Asp Val Glu Ala Phe Val Glu Arg Tyr Phe Ser Arg Ala Ser Arg
        275                 280                 285
Glu Ser Leu Lys Lys Ser Val Phe Phe Leu Arg Lys Glu Ile Lys Arg
    290                 295                 300
Leu Gln Gln Ala Ala Lys Tyr Leu Ser Ile Ser Ser Gly Val Phe Ser
305                 310                 315                 320
Ser Thr Arg Leu Gly Leu Ser Gln Cys Trp Asp Gln Leu Lys Gly Leu
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                325                 330                 335
Glu Lys Glu Ile Arg Gln Glu Gln Ser Arg Leu Ala Ala Thr Ser Ala
            340                 345                 350
Glu Asn Met Lys Glu Val Gln Gly Arg Leu Asp Gln Val Glu Val Leu
        355                 360                 365
Leu Gln Glu Asn Glu Glu Val His Lys Ile Arg Lys Glu Ile Glu Ala
    370                 375                 380
Ile Ser Lys His Ile Arg Gly Ile Ser Leu Val His Asp Asp Val Val
385                 390                 395                 400
Leu Leu Lys Gly Arg Ile Gln Thr Leu Leu Gly Glu Val Arg Glu Arg
                405                 410                 415
Glu Ala Val Ile Glu Lys Glu Met Lys Glu Leu Gln Ala Lys Ala Glu
            420                 425                 430
Gln Ala Arg Ala Glu Ala Ile Gln Ala Leu Glu Asn Glu Val Gln Ser
        435                 440                 445
Phe Cys Asp Gln Cys Asn Glu Gly Asp Leu Pro Glu Gly Ala Lys Glu
    450                 455                 460
Arg Cys Gln Glu Leu Lys Glu Ala Val Lys Lys Met Ala Tyr Leu Pro
465                 470                 475                 480
Tyr Ala Lys Lys Val Ala Leu Asp Asn Gln Ile Asn Ala Ala Gln Arg
                485                 490                 495
Ser Val Leu Ala Arg Leu Glu Glu Gln Met Leu Ala Cys Pro Asp Glu
            500                 505                 510
Lys Val Leu Asn Met Arg Gln Val Leu Glu Gln Arg Met Leu Arg Arg
        515                 520                 525
Lys Glu Leu Lys Ala Lys Phe Glu Cys Asp Lys Lys Leu Leu Gly Gly
    530                 535                 540
Ser Gly Leu Asp Phe Asp Arg Ala Leu Gln Tyr Ser Ala Met Val Glu
545                 550                 555                 560
Glu Asp Arg Lys Ala Leu Glu Glu Leu Asp Ala Ala Ile Ile Glu Leu
                565                 570                 575
Lys Arg Gln Ile Gln Gln Phe Val
            580
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<213>Chlamydia trachomatis
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Val Leu Thr Lys Lys Thr Ile Gly Ser Gln Ser Leu Leu Trp Gln Cys
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Ile Ile Val Asn Gly Phe Met Gly Ser Pro Ala Arg Thr Ser Phe Gln
             20                  25                  30
Glu Gly Leu Arg Leu Phe Leu Tyr Ser Pro Leu Glu Glu Leu Arg Ile
         35                  40                  45
His Ala Asp Ser Leu Arg Lys Gln Arg Tyr Pro Gln Asn Thr Ile Thr
     50                  55                  60
Tyr Val Leu Asp Ala Asn Pro Asn Tyr Thr Asn Ile Cys Lys Ile Asp
 65                  70                  75                  80
Cys Ala Phe Cys Ala Phe Tyr Arg Lys Pro Arg Ser Ser Asp Ala Tyr
                 85                  90                  95
Leu Leu Ser Phe Asp Glu Phe Arg Gln Leu Met Gln Arg Tyr Val Gln
            100                 105                 110
Ala Gly Ile Lys Thr Val Leu Leu Gln Gly Gly Val His Pro Gln Ile
        115                 120                 125
Gly Ile Asp Tyr Leu Glu Thr Leu Val Ser Ile Thr Lys Lys Glu Phe
    130                 135                 140
Pro Ser Leu His Pro His Phe Phe Ser Ala Val Glu Ile Ala His Ala
145                 150                 155                 160
Ala Gln Ile Ser Gly Ile Ser Thr Glu Gln Ala Leu Glu Arg Leu Trp
                165                 170                 175
Glu Ala Gly Gln Arg Thr Ile Pro Gly Gly Gly Ala Glu Ile Leu Ser
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            180                 185                 190
Glu Arg Ile Arg Lys Gln Ile Ser Pro Lys Lys Met Gly Pro Asp Gly
        195                 200                 205
Trp Ile Gln Phe His Lys Leu Ala His Arg Leu Gly Phe Arg Ser Thr
    210                 215                 220
Ala Thr Met Met Phe Gly His Val Glu Ser Pro Glu Asp Ile Leu Leu
225                 230                 235                 240
His Leu Gln Thr Leu Arg Asp Ala Gln Asp Glu Asn Pro Gly Phe Phe
                245                 250                 255
Ser Phe Ile Pro Trp Ser Tyr Lys Pro Asn Asn Thr Ala Leu Gly Arg
            260                 265                 270
Arg Val Pro His Gln Ala Ser Pro Glu Leu Tyr Tyr Arg Ile Leu Ala
        275                 280                 285
Val Ala Arg Ile Phe Leu Asp Asn Phe Asp His Ile Ala Ala Ser Trp
    290                 295                 300
Phe Gly Glu Gly Lys Glu Glu Gly Val Lys Gly Leu Phe Tyr Gly Ala
305                 310                 315                 320
Asp Asp Phe Gly Gly Thr Ile Leu Asp Glu Ser Val His Lys Cys Thr
                325                 330                 335
Gly Trp Asp Leu Gln Ser Ser Glu Lys Glu Ile Cys Ala Met Leu Leu
            340                 345                 350
Gln Ala Gly Phe Thr Pro Val Glu Arg Asp Thr Phe Tyr Arg Pro Leu
        355                 360                 365
Ser Leu Ala Arg
    370
<210>624
<211>220
<212>PRT
<213>Chlamydia trachomatis
<400>624
Ser Pro His Ser Arg Arg Arg Asp Arg Phe Leu Phe Pro Tyr Phe Ser
  1                 5                  10                  15
Ile Arg Ser Ala Ile Trp Ala Phe Ser Arg Phe Cys Ile Ala Gly Xaa
            20                  25                  30
Leu Thr Leu Glu Ala Gln Glu Arg Gly Ile Ser Ala Leu Tyr Gln Glu
        35                  40                  45
Leu Glu Leu Leu Asp Pro Val Tyr Ala Ala Thr Ile Thr Lys His Asp
    50                  55                  60
Lys Asn Lys Ile Ile Arg Ala Leu Glu Ile Ile Arg Lys Thr Gly Ser
65                  70                  75                  80
Lys Val Ser Ser Tyr Ala Trp Gln Ser Thr Val Asn Glu Ser Lys Glu
                85                  90                  95
Tyr His Cys Arg Gly Trp Leu Leu Ser Pro Asp Pro Glu Leu Leu Arg
            100                 105                 110
His Asn Ile Leu Glu Arg Cys Asp Gln Met Leu Glu Glu Gly Leu Leu
        115                 120                 125
Asp Glu Val Gln Ala Leu Leu Ala Ala Gly Ile Lys Gly Asn Ser Ser
    130                 135                 140
Ala Ser Arg Ala Ile Gly Tyr Arg Glu Trp Ile Glu Phe Leu Asp Leu
145                 150                 155                 160
Gly Ser Pro Pro Asp Leu Phe Glu Ile Thr Lys Gln Lys Phe Ile Thr
                165                 170                 175
Asn Thr Trp Arg Tyr Thr Lys Lys Gln Arg Thr Trp Phe Lys Arg Tyr
            180                 185                 190
Ser Leu Phe Arg Glu Leu Arg Pro Met Gly Met Thr Leu Asp Asp Met
        195                 200                 205
Ala Lys Lys Ile Ala Gln Asp Tyr Phe Leu Cys Gly
    210                 215                 220
<210>625
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<212>PRT
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Searched - Serialized

<213>Chlamydia trachomatis
<400>625
Met Ser Ser Ser Ser Ser Ser Gly Ala Ala Thr Gly Phe Ala Val Cys
1 5 10 15
Ser Asp Pro Gln Lys Ser Phe Ser Lys Met Phe Lys Arg Thr Val Ile
20 25 30
Leu Leu Ala Gly Pro Thr Gly Ser Gly Lys Thr Ala Val Ser Leu Lys
35 40 45
Leu Ala Pro Leu Val Asp Gly Glu Ile Ile Ser Val Asp Ser Met Gln
50 55 60
Val Tyr Gln Gly Met Asp Ile Gly Thr Ala Lys Val Ser Leu Ala Asp
65 70 75 80
Arg Lys Arg Phe Arg Ile Thr
85
<210>626
<211>310
<212>PRT
<213>Chlamydia trachomatis
<400>626
Ser Asn Asp Glu Ile Leu Asp Gly Arg Ser Leu Tyr Leu Leu Ser Ser
1 5 10 15
Asn Lys Gly Phe Ser Leu Phe Phe Tyr Leu Lys Lys Gln Phe Phe Leu
20 25 30
Asp Ser Ser Arg Cys Thr Leu Glu Val Ile Leu Pro Pro Arg Ser Pro
35 40 45
Ser Phe Leu Val His Ile Trp Arg Leu Phe Phe Ala Lys Gly Pro Asn
50 55 60
Tyr Ser Leu Pro Tyr Ala Phe Leu Cys Ile Phe Val Ser Val Leu Val
65 70 75 80
Phe Leu Pro Ile Gly Leu Trp Leu Thr Leu Pro Ser Phe Leu Asn Phe
85 90 95
Lys His Ser Leu Thr Pro Ile Lys Thr Leu Phe Leu Thr Cys Thr Glu
100 105 110
Pro Pro Cys Leu Pro Glu Pro Phe Phe Ser Asp Ile Leu His Leu Ser
115 120 125
Ala Asp Ser Pro Pro Ala Leu Gln Thr Phe Ser Thr Lys Ser Ala Glu
130 135 140
His Phe Leu Asn Glu Leu Gly Val Phe Ser Phe Ile Ser Ile Glu Lys
145 150 155 160
Val Pro Asp His Lys Gly Leu Asp Ile Ser Tyr Ala Leu His Thr Pro
165 170 175
Leu Ala Phe Leu Gly Asn Gln Thr His Thr Phe Ile Gly Tyr Glu Gly
180 185 190
Gln Thr Phe Pro Ala Leu Pro Phe Phe Gln Ser Leu Glu Leu Pro Thr
195 200 205
Val Phe Phe Ser Gln Gln Ala Leu Ser Gln Thr Arg Ile Pro His Gln
210 215 220
Thr Leu Ser Ile Val Thr Ser Leu Ile Asp Gln Leu Gln Met Asp Pro
225 230 235 240
Pro Ser Ile Ile Asp Leu Ser Gln Ile Asp His Tyr Pro Gly Glu Phe
245 250 255
Val Val Ser Leu Ser Ser Gly Thr Leu Leu Arg Phe Arg Lys Asp Ser
260 265 270
Phe Leu Pro Gly Ile Gln His Tyr Gln Gln Ala Leu Ser Leu Gly Ala
275 280 285
Phe Ser Pro Gln Gln Ala Val Ile Cys Asp Leu Arg Cys Glu Asp Tyr
290 295 300
Leu Leu Leu Lys Arg Lys
305 310
<210>627
<211>96

<212>PRT
<213>Chlamydia trachomatis
<400>627

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Leu Asp Phe Met Glu Asp Phe Ala Ala Tyr Ile Val Lys Asn Leu Val
  1               5                  10                  15
Thr Asp Pro Asn Ala Val Glu Ile Arg Ser Ser Glu Asp Lys Ala Ser
            20                  25                  30
Ala Thr Leu Lys Leu Glu Ile His Ala Ala Ser Glu Asp Ile Gly Lys
        35                  40                  45
Ile Ile Gly Arg Lys Gly Gln Thr Ile Gln Ala Leu Arg Thr Ile Leu
    50                  55                  60
Lys Arg Val Gly Ala Arg Leu Gln Lys Lys Ile Leu Val Glu Leu Ala
65                  70                  75                  80
Gln Pro Glu Asn Gly Ser Leu Thr Asp Glu Glu Val Leu Ser Leu Asp
                85                  90                  95
```

<210>628
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<213>Chlamydia trachomatis
<400>628

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Arg Arg Ser Arg Ala Ser Ser Gly Phe Phe Glu Arg Phe Ala Leu Lys
  1               5                  10                  15
Thr Gln Gln Ile Cys Trp Tyr Asn Gly Tyr Cys Pro Arg Leu Arg Ser
            20                  25                  30
Cys Leu Gln Gly His Thr Phe Gly Leu Asp Ser Ser Cys Asp Leu His
        35                  40                  45
Ile Leu Ser Tyr Tyr Gln Glu Gly Trp Arg Leu Tyr Phe Thr Ala Lys
    50                  55                  60
Tyr Gln Asp Val Val Tyr Ala Asp Ile Glu Val Gln Leu Val Gly Met
65                  70                  75                  80
His Asn Val Leu Asn Ala Ala Ala Ala Met Gly Ile Ala Leu Ser Leu
                85                  90                  95
Gly Ile Asp Glu Gly Ala Ile Arg Asn Ala Phe Arg Gly Phe Ser Gly
            100                 105                 110
Val Gln Arg Arg Leu Gln Arg Lys Asn Ser Ser Glu Thr Phe Leu Phe
        115                 120                 125
Leu Glu Asp Tyr Ala His His Pro Ser Glu Ile Ser Cys Thr Leu Arg
    130                 135                 140
Ala Val Arg Thr Ala Val Gly Gln Arg Arg Ile Leu Ala Ile Cys Gln
145                 150                 155                 160
Pro His Arg Phe Ser Arg Leu Arg Glu Cys Ile Asp Ser Phe Pro Ser
                165                 170                 175
Ala Phe Lys Asp Ala Asp Glu Val Leu Leu Thr Glu Val Tyr Ser Ala
            180                 185                 190
Gly Glu Glu Ala Glu Asp Ile Ser Tyr Gln Glu Leu Ala Glu Ala Ile
        195                 200                 205
Ser Gln Glu Ser Ile Val Lys Cys Thr His Ile Pro Phe His Glu Leu
    210                 215                 220
Gln Arg His Leu Glu Gln Ser Ile Arg Val His Asp Val Cys Val Ser
225                 230                 235                 240
Leu Gly Ala Gly Asn Ile Val Asn Leu Gly Glu Lys Leu Arg Asp Phe
                245                 250                 255
Glu Pro Gln Lys Leu His Leu Gly Ile Ile Cys Gly Gly Lys Ser Cys
            260                 265                 270
Glu His Glu Ile Ser Val Leu Ser Ala Lys Asn Ile Ala Lys His Leu
        275                 280                 285
Ser Lys Ser Phe Tyr Asp Val Ser Tyr Phe Leu Ile Thr Arg Glu Gly
    290                 295                 300
Leu Trp Glu Ser Val Ser Ser Leu Glu Thr Ala Glu Asp Ser Gly Lys
305                 310                 315                 320
Ser Val Phe Asp Pro Glu Ile Ala Gln Arg Leu Glu Lys Val Asp Val
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                325                 330                 335
Val Leu Pro Ile Leu His Gly Pro Tyr Gly Glu Asp Gly Ala Met Gln
            340                 345                 350
Gly Phe Leu Glu Thr Ile Gly Lys Pro Tyr Thr Gly Pro Ala Ile Ala
        355                 360                 365
Phe Ser Ala Ile Ala Met Asn Lys Val Phe Thr Lys Arg Phe Met Ser
    370                 375                 380
Asp Leu Gly Ile Pro Val Val Pro Tyr Leu Pro Leu Thr Leu Ala Gly
385                 390                 395                 400
Trp Asn Gln Glu Gln Xaa Lys Trp Leu Ala His Ile Val Glu Ala Phe
                405                 410                 415
Ser Phe Pro Met Phe Val Lys Ser Ser His Leu Gly Ser Ser Ile Gly
            420                 425                 430
Val Phe Glu Val His Asn Val Ile Glu Leu Arg Asp Ala Ile Asn Glu
        435                 440                 445
Ala Phe Met Arg Asp Asn Asp Val Phe Val Glu Glu Asn Arg Leu Gly
    450                 455                 460
Cys Lys Glu Ile Glu Val Ser Val Leu Gly Asp Gly Ser Gly Ala Phe
465                 470                 475                 480
Val Ile Ala Gly Leu His Glu Arg Arg Gly Ser Gly Gly Phe Ile Asp
                485                 490                 495
Tyr Gln Glu Lys Tyr Gly Leu Ser Gly Lys Ser Ser Ala Gln Ile Val
            500                 505                 510
Phe Asp Thr Asp Leu Ser Lys Glu Ile Gln Glu Gln Ile Leu Glu Ala
        515                 520                 525
Ala Asp Lys Ile Tyr Arg Leu Leu Leu Gly Lys Gly Ser Cys Arg Ile
    530                 535                 540
Asp Phe Phe Val Asp Glu Glu Gly Asn Phe Trp Leu Ser Glu Met Asn
545                 550                 555                 560
Pro Ile Pro Gly Met Thr Glu Thr Ser Pro Phe Leu Thr Ser Phe Ile
                565                 570                 575
Arg Lys Gly Trp Ser Tyr Glu Gln Ile Val His Gln Leu Val Ile Asp
            580                 585                 590
Gly Leu Gln Arg Phe Asn Gln Arg Gln Arg Leu Ile Ser Thr Ser Phe
        595                 600                 605
Val Asp Gln Ala Phe Ala Ile Gln
    610                 615
<210>629
<211>268
<212>PRT
<213>Chlamydia trachomatis
<400>629
Ser Asn His Cys Ile Ser Leu Phe Val Asn Leu Tyr Arg Leu Met Met
  1                 5                  10                  15
Lys Ser Leu Phe Tyr His Phe Ile Gly Ile Gly Gly Ile Gly Met Ser
             20                  25                  30
Ala Leu Ala His Val Leu Leu Asp Arg Gly Tyr Ser Val Ser Gly Ser
         35                  40                  45
Asp Leu Ser Glu Gly Lys Val Val Glu Lys Leu Lys Asn Lys Gly Ala
     50                  55                  60
Glu Phe Phe Leu Gly Asn Gln Glu Glu His Ile Pro Glu Gly Ala Val
 65                  70                  75                  80
Val Val Tyr Ser Ser Ser Ile Ser Lys Glu Asn Pro Glu Phe Leu Ser
                 85                  90                  95
Ala Lys Ser Arg Gly Asn Arg Val Val His Arg Ala Glu Leu Leu Ala
            100                 105                 110
Glu Leu Ala Gln Asp Gln Ile Ser Ile Phe Val Thr Gly Ser His Gly
        115                 120                 125
Lys Thr Thr Val Ser Ser Leu Ile Thr Ala Ile Leu Gln Glu Ala Lys
    130                 135                 140
Lys Asn Pro Ser Phe Val Ile Gly Gly Leu Asn Gln Glu Gly Ile Asn
```

```
145                 150                 155                 160
Gly Gly Ser Gly Ser Glu Tyr Phe Val Ala Glu Ala Asp Glu Ser Asp
                165                 170                 175
Gly Ser Ile Arg Cys Tyr Thr Pro Glu Phe Ser Val Ile Thr Asn Ile
            180                 185                 190
Asp Asp Glu His Leu Ser Asn Phe Glu Gly Asp Arg Glu Leu Leu Leu
        195                 200                 205
Ala Ser Leu Lys Asp Leu His Ser Arg Leu Ser Arg Ser Val Gly Ile
    210                 215                 220
Met Asp Ile Val Leu Ala Cys Val His Ala Cys Lys Gly Ile Leu Leu
225                 230                 235                 240
Asp Trp Thr Leu Leu Val Ile Tyr Ile Phe Tyr Leu Ile Ile Lys Lys
                245                 250                 255
Asp Gly Asp Cys Thr Leu Gln Gln Ser Ile Lys Met
            260                 265
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<210>630
<211>326
<212>PRT
<213>Chlamydia trachomatis
<400>630

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Val Met Lys Lys Ile Asn Lys Ile Val Leu Ala Val Gly Gly Thr Gly
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Gly His Ile Ile Pro Ala Leu Ala Ala Arg Glu Thr Phe Ile His Glu
             20                  25                  30
Asp Ile Glu Val Leu Leu Leu Gly Lys Gly Leu Ala His Phe Leu Gly
         35                  40                  45
Asp Asp Ser Glu Ile Ala Tyr Cys Asp Ile Pro Ser Gly Ser Pro Phe
     50                  55                  60
Ser Leu Arg Val Asn Arg Met Phe Ser Gly Ala Lys Gln Leu Tyr Lys
 65                  70                  75                  80
Gly Tyr Val Ala Ala Leu Gln Lys Ile Arg Asp Phe Thr Pro Asp Leu
                85                  90                  95
Ala Ile Gly Phe Gly Ser Tyr His Ser Leu Pro Ala Met Leu Ala Ser
            100                 105                 110
Ile Arg Ser Arg Ile Pro Leu Phe Leu His Glu Gln Asn Ile Val Pro
        115                 120                 125
Gly Lys Val Asn Lys Leu Phe Ser Arg Phe Ala Lys Gly Val Gly Met
    130                 135                 140
Ser Phe Ala Ala Ala Gly Glu His Phe His Cys Arg Ala Glu Glu Val
145                 150                 155                 160
Phe Leu Pro Ile Arg Lys Leu Ser Glu Gln Ile Val Phe Pro Gly Ala
                165                 170                 175
Ser Pro Val Ile Cys Val Val Gly Gly Ser Gln Gly Ala Lys Ile Leu
            180                 185                 190
Asn Asp Val Val Pro Lys Ala Leu Ala Arg Ile Arg Glu Ser Tyr Ser
        195                 200                 205
Asn Leu Tyr Val His His Ile Val Gly Pro Lys Gly Asp Leu Gln Ala
    210                 215                 220
Val Ser Gln Val Tyr Gln Asp Ala Gly Ile Asn His Thr Val Thr Ala
225                 230                 235                 240
Phe Asp His Asn Met Leu Gly Val Leu Gln Ala Ser Asp Leu Val Ile
                245                 250                 255
Ser Arg Ser Gly Ala Thr Met Leu Asn Glu Leu Leu Trp Val Gln Val
            260                 265                 270
Pro Ala Ile Leu Ile Pro Tyr Pro Gly Ala Tyr Gly His Gln Glu Val
        275                 280                 285
Asn Ala Lys Phe Phe Thr His Thr Val Gly Gly Gly Thr Met Ile Leu
    290                 295                 300
Gln Lys Tyr Leu Thr Glu Glu Ser Leu Ser Lys Gln Val Leu Leu Cys
305                 310                 315                 320
Phe Arg Ser Cys Asn Gln
```

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325

<210>631
<211>390
<212>PRT
<213>Chlamydia trachomatis
<400>631

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Ile Ser Gly Ile Ile Met Lys Trp Phe Leu Ile Ser Cys Leu Leu Gly
  1               5                  10                  15
Ile Phe Ser Leu Gly Leu Ile Met Val Phe Asp Thr Ser Ser Ala Glu
             20                  25                  30
Val Leu Asp Arg Ala Leu Ser Cys Ser Thr His Lys Ala Leu Ile Arg
         35                  40                  45
Gln Ile Thr Tyr Leu Gly Leu Gly Leu Gly Ile Ala Ser Phe Val Tyr
     50                  55                  60
Ile Leu Gly Trp Lys Asp Phe Leu Lys Met Ser Pro Met Leu Leu Ile
 65                  70                  75                  80
Phe Val Gly Ile Thr Leu Val Leu Val Leu Ile Pro Gly Ile Gly Val
                 85                  90                  95
Cys Arg Asn Gly Ala Lys Arg Trp Leu Gly Val Gly Gln Leu Thr Leu
            100                 105                 110
Gln Pro Ser Glu Phe Val Lys Tyr Leu Val Pro Cys Val Ala Ile Glu
        115                 120                 125
Cys Leu Thr Thr Lys Pro Ser Ile Arg Ser Ser Phe Lys Arg Phe Val
    130                 135                 140
Ala Phe Val Ala Leu Leu Phe Ile Pro Ile Met Leu Ile Ala Ile Glu
145                 150                 155                 160
Pro Asp Asn Gly Ser Ala Ala Val Ile Ser Phe Ser Leu Ile Pro Val
                165                 170                 175
Phe Ile Val Thr Ala Val Arg Leu Arg Tyr Trp Leu Val Pro Leu Leu
            180                 185                 190
Cys Val Leu Cys Ile Gly Gly Thr Phe Ala Tyr Arg Leu Pro Tyr Val
        195                 200                 205
Arg Asn Arg Leu Gln Val Tyr Leu His Pro Glu Leu Asp Ile Lys Gly
    210                 215                 220
Arg Gly His Gln Pro Tyr Gln Ala Lys Ile Ala Ala Gly Ser Gly Gly
225                 230                 235                 240
Val Phe Gly Lys Gly Pro Gly Lys Gly Leu Gln Lys Leu Thr Tyr Leu
                245                 250                 255
Pro Glu Ala Gln Asn Asp Tyr Ile Ala Ala Ile Tyr Ala Glu Glu Phe
            260                 265                 270
Gly Phe Ile Gly Met Leu Leu Leu Ile Leu Leu Tyr Met Gly Phe Ile
        275                 280                 285
Tyr Ser Gly Tyr Val Ile Ala Met Arg Ala Ser Leu Leu Ser Gly Ala
    290                 295                 300
Ala Leu Ala Ile Ser Ile Thr Val Ile Ile Gly Met Gln Ala Phe Ile
305                 310                 315                 320
Asn Leu Gly Val Val Ser Gly Leu Leu Pro Ser Lys Gly Val Asn Leu
                325                 330                 335
Pro Phe Phe Ser Gln Gly Gly Ser Ser Leu Ile Ala Asn Met Cys Gly
            340                 345                 350
Met Gly Leu Leu Leu Arg Ile Cys Asp Glu Glu Asn Gln Gln Asn Arg
        355                 360                 365
Ile Gly Ser Gly Gly Asn Arg Arg Ala His Tyr Pro Cys Ser Ser Ser
    370                 375                 380
Lys Arg Asp Phe Tyr Ser
385                 390
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<210>632
<211>133
<212>PRT
<213>Chlamydia trachomatis
<400>632

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Arg Asn Arg Thr Ala Val Thr Ile Lys Thr Gly Ile Lys Glu Asn Glu
  1               5                  10                  15
Ile Thr Ala Ala Asp Pro Leu Ser Gly Ser Ile Ala Ile Asn Ile Met
            20                  25                  30
Gly Ile Asn Asn Arg Ala Thr Lys Ala Thr Asn Arg Leu Lys Leu Leu
        35                  40                  45
Arg Ile Glu Gly Phe Val Val Lys His Ser Ile Ala Thr His Gly Thr
    50                  55                  60
Lys Tyr Leu Thr Asn Ser Glu Gly Cys Lys Val Asn Cys Pro Thr Pro
65                  70                  75                  80
Ser Gln Arg Leu Ala Pro Phe Leu Gln Thr Pro Ile Pro Gly Ile Arg
                85                  90                  95
Thr Lys Thr Arg Val Ile Pro Thr Lys Ile Ser Asn Ile Gly Leu Ile
            100                 105                 110
Phe Lys Lys Ser Phe His Pro Lys Met Tyr Thr Asn Glu Ala Ile Pro
        115                 120                 125
Ser Pro Asn Pro Arg
    130
<210>633
<211>255
<212>PRT
<213>Chlamydia trachomatis
<400>633
Ala Phe Gly Trp Asp Gly Arg Gly Ser Phe Met Asn Arg Arg Asn Thr
  1               5                  10                  15
Met Ile Val Ala Thr Thr Val Asn Ala Val Leu Leu Ala Val Leu Phe
            20                  25                  30
Met Thr Ala Arg His Ser Glu Gln Glu Ile Glu Tyr Pro Gln Lys Ile
        35                  40                  45
Ala Pro Ile Lys Ile Leu Glu Pro Val Pro Val Val Asp Lys Ala Pro
    50                  55                  60
Glu Lys Leu Glu Lys Lys Pro Glu Val Ile Ala Lys Pro Ser Gln Val
65                  70                  75                  80
Val Arg Asn Pro Val Val Ser Lys Ala Glu Leu Ala Ala Gln Phe Ala
                85                  90                  95
Asp Lys Asn Pro Lys Thr Glu Lys Glu Ser Ser Gly Gly Ser Lys Lys
            100                 105                 110
Ile Ser Ser Thr Pro Val Glu Ser Thr Thr Pro Val Ala Pro Glu Ile
        115                 120                 125
Ser Val Val Asn Ala Lys Val Val Glu Lys Thr Pro Glu Lys Glu Glu
    130                 135                 140
Phe Ser Thr Val Ile Val Lys Lys Gly Asp Phe Leu Glu Arg Ile Ala
145                 150                 155                 160
Arg Ser Asn His Thr Thr Val Ser Ala Leu Met Gln Leu Asn Asp Leu
                165                 170                 175
Ser Ser Thr Gln Leu Gln Ile Gly Gln Val Leu Arg Val Pro Lys Thr
            180                 185                 190
Asn Lys Thr Glu Lys Asp Leu Gln Val Lys Thr Pro Asn Pro Glu Asp
        195                 200                 205
Tyr Tyr Val Val Lys Glu Gly Asp Ser Pro Trp Ala Ile Ala Leu Ser
    210                 215                 220
Asn Gly Ile Arg Leu Asp Glu Leu Leu Lys Leu Asn Gly Leu Asp Glu
225                 230                 235                 240
Gln Lys Ala Arg Arg Leu Arg Pro Gly Asp Arg Leu Arg Ile Arg
                245                 250                 255
<210>634
<211>179
<212>PRT
<213>Chlamydia trachomatis
<400>634
Asn His Trp Tyr Leu His Asp Lys Tyr Asn Tyr Cys Cys Ala Tyr Leu
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  1               5                  10                  15
Leu Ala Lys Ile Glu Phe Pro Ile Ser Glu Thr Ser Phe Ile Glu Ala
            20                  25                  30
Val Ala Thr Phe Asn Lys Pro Pro His Arg Met Glu Tyr Leu Gly Gln
        35                  40                  45
Lys Gln Gly Ile His Tyr Ile Asn Asp Ser Lys Ala Thr Thr Val Ser
    50                  55                  60
Ala Thr Glu Thr Ala Leu Leu Gly Val Gly Asn Gln Ala Ile Val Ile
65                  70                  75                  80
Leu Gly Gly Arg Asn Lys Gly Cys Thr Phe Ser Ser Leu Leu Pro Ala
                85                  90                  95
Leu Arg Lys Ala Ala Lys Ser Val Val Ala Met Gly Glu Cys Ala Gln
            100                 105                 110
Glu Ile Ala Arg Asp Leu Glu Glu Phe Pro Val Thr Val Val Lys Asn
        115                 120                 125
Leu Ser Glu Ala Leu Leu Cys Ala Glu Glu Gln Ala Val Pro Gly Asp
    130                 135                 140
Val Ile Val Leu Ser Pro Ala Cys Ala Ser Phe Asp Gln Phe Arg Ser
145                 150                 155                 160
Tyr Glu Glu Arg Gly Ala Met Phe Lys His Leu Val Gly Met Glu Glu
                165                 170                 175
Val Leu Leu
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<210>635
<211>242
<212>PRT
<213>Chlamydia trachomatis
<400>635

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Met Gly Leu Glu Arg Val Val Val Ile Gly Leu Gly Val Ser Gly Arg
  1               5                  10                  15
Ser Ile Val Xaa Phe Leu Ala Gln Lys Gly Val Cys Val Leu Gly Val
            20                  25                  30
Asp Lys Ser Leu His Ala Leu Gln Asn Cys Pro Tyr Ile Xaa Lys Asn
        35                  40                  45
Ile Trp Arg Thr Lys Ser Ser Leu His Arg Trp Ile Met Leu Ser Ser
    50                  55                  60
Pro Gly Val Ser Lys Glu His Pro Trp Val Gln Ala Ala Ile Ala Ser
65                  70                  75                  80
His Ile Pro Val Met Thr Asp Ile Gln Leu Ala Phe Gln Thr Glu Lys
                85                  90                  95
Phe Thr Glu Arg Glu Ser Leu Ala Ile Thr Gly Thr Thr Gly Lys Thr
            100                 105                 110
Thr Thr Ile Leu Phe Leu Glu Tyr Leu Phe Lys Arg Ser Gly Ile Pro
        115                 120                 125
Ala Phe Ala Met Gly Asn Val Gly Ile Pro Ile Leu Asp Gly Met Gln
    130                 135                 140
Asn Pro Gly Val Arg Ile Val Glu Ile Ser Ser Phe Gln Leu Ala Asp
145                 150                 155                 160
Gln Glu Lys Ser Tyr Pro Val Leu Ser Gly Gly Met Ile Leu Asn Ile
                165                 170                 175
Ser Asp Asn His Leu Asp Tyr His Gly Asn Phe Ser Glu Tyr Phe Gln
            180                 185                 190
Ala Lys Gln Asn Leu Ala Leu Cys Met Arg Asn Pro Asp Asp Leu Trp
        195                 200                 205
Val Gly Asp Glu Arg Phe Tyr Gly His Leu Tyr Leu Glu Glu Val Gln
    210                 215                 220
Lys Tyr Met Arg Leu Leu Asp Lys Glu Ser Ala Leu Lys Pro Leu Val
225                 230                 235                 240
Leu Ala
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<210>636

<211>351
<212>PRT
<213>Chlamydia trachomatis
<400>636
Arg Glu Phe Leu Ile Arg Ala Ser His Asn Lys Thr Arg Lys Gln Met
1 5 10 15
Leu Pro Leu Thr Tyr Val Val Lys Ala Phe Ser Ile Gly Leu Phe Phe
20 25 30
Ser Leu Phe Leu Met Lys Pro Leu Ile Ser Trp Leu Lys Lys Gln Gly
35 40 45
Phe Gln Asp His Ile His Lys Asp His Cys Glu Lys Leu Glu Glu Leu
50 55 60
His Lys Asp Lys Ala Tyr Ile Pro Thr Ala Gly Gly Ile Val Phe Val
65 70 75 80
Phe Ala Ser Val Leu Ala Val Leu Leu Leu Phe Pro Ile Gln Leu Trp
85 90 95
Ser Thr Trp Phe Cys Ile Gly Thr Ile Leu Leu Trp Gly Ala Leu Gly
100 105 110
Trp Cys Asp Asp Gln Ile Lys Asn Arg Arg Arg Val Gly His Gly Leu
115 120 125
Ser Ala Lys His Lys Phe Leu Ile Gln Asn Cys Leu Ala Ala Gly Val
130 135 140
Val Leu Pro Ile Met Phe Ala Tyr Lys Glu Ser Phe Leu Ser Phe His
145 150 155 160
Leu Pro Phe Leu Gly Ile Val Ser Leu Pro His His Trp Trp Ser Tyr
165 170 175
Leu Leu Ser Phe Ala Ile Ala Thr Leu Ala Ile Val Gly Thr Ser Asn
180 185 190
Ser Val Asn Leu Thr Asp Gly Leu Asp Gly Leu Ala Ala Gly Ala Met
195 200 205
Val Ile Ala Cys Leu Gly Met Leu Val Val Ala Cys Thr Asn Gly Ala
210 215 220
Pro Trp Ala Phe Ile Cys Cys Val Leu Leu Ala Thr Leu Ala Gly Ser
225 230 235 240
Cys Leu Gly Phe Leu Arg Tyr Asn Lys Ser Pro Ala Arg Val Phe Met
245 250 255
Gly Asp Thr Gly Ser Leu Phe Leu Gly Ala Met Leu Gly Met Cys Ala
260 265 270
Val Leu Leu Arg Ala Glu Phe Leu Leu Leu Phe Met Gly Gly Ile Phe
275 280 285
Val Leu Glu Ser Leu Ser Val Ile Val Gln Val Gly Ser Tyr Lys Leu
290 295 300
Arg Lys Lys Arg Val Phe Leu Cys Ala Pro Leu His His His Tyr Glu
305 310 315 320
Tyr Lys Gly Leu Ser Glu Lys Ala Val Val Arg Asn Phe Leu Ile Val
325 330 335
Glu Leu Ile Cys Val Val Val Gly Ile Ile Ala Val Phe Val Asp
340 345 350
<210>637
<211>203
<212>PRT
<213>Chlamydia trachomatis
<400>637
Asn Gly Arg Phe Leu Leu Ser Ser Asp Ser Phe Arg Arg Val Leu Ile
1 5 10 15
Ser Ala Pro Asp Gly Asp Ile Glu Leu Pro Ala Val Phe Pro Tyr Ser
20 25 30
Pro Ala Tyr Met Asn Phe Ile Ile Ala Val Ala Leu Ala Trp Ile Thr
35 40 45
Asn Val Pro Met Asp Arg Leu Glu Gln Val Ser Gln Ser Leu Phe Leu
50 55 60

Pro Ala Met Arg Phe Glu Gln Gln Glu His Asn Gly Ile Arg Val Ile
65 70 75 80
Asn Asp Ala Tyr Asn Ala Ser Pro Asp Ala Met Leu Ala Ala Leu Asp
85 90 95
Ala Val Pro Val Pro Pro Glu Gly Gly Lys Ile Ile Phe Ile Leu Gly
100 105 110
His Met Ala Glu Leu Gly Arg Tyr Ser Asp Glu Cys His Ile Ala Val
115 120 125
Ala Arg Lys Ala Val Thr Lys Ala His Ile Ile Phe Phe Val Gly Glu
130 135 140
Lys Trp Phe Pro Val Arg Asp Ile Val Arg Asp Ala Asp Cys Gln Ile
145 150 155 160
Gly Phe Tyr Ser Ala Val Ser Glu Ile Met Asp Thr Val Lys Ala Leu
165 170 175
Val Gln Gln Gly Asp Val Val Leu Leu Lys Gly Ser Arg Ser Leu Glu
180 185 190
Leu Glu Thr Leu Leu Pro Cys Phe Ser Ile Ser
195 200

<210>638
<211>282
<212>PRT
<213>Chlamydia trachomatis
<400>638
Met Arg Pro Ile Leu Leu Glu Glu Trp Ser Ser Leu Leu Leu Gly Met
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Glu Ile Pro Arg Ser Gly Lys Lys Val Thr Gly Val Ala Ile Asp Ser
20 25 30
Arg Leu Val Leu Pro Gly Asp Val Phe Phe Ala Leu Pro Gly Asn Arg
35 40 45
Thr Ser Gly His Leu Phe Leu Lys Gln Ala Ala Gln Ser Gly Ala Val
50 55 60
Ala Ala Val Val Ala Ser Asp Tyr His Gly Pro Ser Tyr Gly Leu Gln
65 70 75 80
Leu Leu Arg Val Ala Asp Pro Arg Glu Ala Leu Arg Ala Ala Gly Arg
85 90 95
Thr Gln Gly Ala Leu Phe His Gly Glu Val Ile Gly Ile Thr Gly Ser
100 105 110
Val Gly Lys Thr Thr Thr Lys Asn Phe Ala Asn Gln Leu Leu Ser Ser
115 120 125
Val Tyr Lys Val Phe Met Ser Pro Lys Ser Tyr Asn Ser Gln Leu Thr
130 135 140
Leu Pro Leu Ser Val Leu Met Ala Asp Gly Asp Glu Asp Phe Leu Leu
145 150 155 160
Leu Glu Met Gly Val Ser Glu Pro Asn Asn Met Lys Asn Leu Leu Glu
165 170 175
Ile Ile Glu Pro Thr Ile Gly Val Ile Thr His Ile Asp Val Gln His
180 185 190
Ala Met His Phe Leu Asp Lys Gly Ala Gln Gly Ile Val Glu Glu Lys
195 200 205
Ser Leu Leu Leu Glu Arg Cys Gly Leu Gln Leu Ile Pro Lys Asp Ser
210 215 220
Ser Trp Phe Gln Phe Phe Ala Lys Lys Asn Ser Ala Ala Glu Arg Phe
225 230 235 240
Ser Phe Ser Met Ser Asn Glu Thr Ala Asp Phe Tyr Tyr Arg Ala Ile
245 250 255
His Ser Glu Glu Ser Leu Leu Val Leu Leu Met Gly Thr Leu Ser Cys
260 265 270
Leu Pro Tyr Phe Arg Ile Leu Gln Arg Ile
275 280

<210>639
<211>440

<212>PRT
<213>Chlamydia trachomatis
<400>639

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Pro Leu Gln Glu Tyr Pro Ala Met Pro His Asp Asn Asn Glu Met His
 1               5                  10                  15
Arg Asn Thr Ile His Gln Leu Phe Thr Gly Leu Asp Lys Ala Tyr Gln
            20                  25                  30
Ile Val Lys Gly Phe Tyr Gly Pro Ala Tyr Ser Ser Ser Ser Lys Asp
        35                  40                  45
Phe Phe Lys Gly Arg Gly Tyr His Ile Leu Ser Arg Ile Glu Leu Ser
    50                  55                  60
Asp Pro Phe Glu Arg Ile Gly Val Tyr Phe Ala Arg Ser Leu Ala Lys
65                  70                  75                  80
Arg Ile His Lys Arg His Ala Asp Gly Val Ile Ser Ser Val Ile Leu
                85                  90                  95
Leu Arg Ala Phe Leu Lys Ala Ser Ile Pro Phe Ile Asp Gln Gly Leu
            100                 105                 110
Ser Pro Arg Leu Leu Ala Ser Ala Leu Ala Ser Gln Lys Glu Ala Val
        115                 120                 125
Cys Ala Tyr Leu His Ser His Ser Phe Leu Leu Lys Asp Ala Ser Lys
    130                 135                 140
Val Leu Gly Leu Ile Arg Ser His Leu Pro Asp Pro Leu Ile Gly Glu
145                 150                 155                 160
Ala Phe Ala Glu Ala Val Ala Tyr Thr Gly His Glu Gly Ala Val Ala
                165                 170                 175
Leu Ser Gln Arg Ser Gly Ser Thr Leu His Leu Val Lys Gly Ile Gln
            180                 185                 190
Thr Gln Lys Gly Tyr Arg Met Pro Ser Phe Phe Pro His Asp Ser Phe
        195                 200                 205
His Glu Asn Pro Ile Val Ala Pro Lys Ile Phe Val Thr Asp Gln Lys
    210                 215                 220
Ile His Cys Leu Phe Pro Phe Leu Pro Leu Leu Lys Lys Phe Ser Glu
225                 230                 235                 240
Glu Gln Thr Pro Leu Ile Ile Phe Cys Lys Glu Ile Ala Pro Asp Pro
                245                 250                 255
Leu Ala Thr Cys Ile Ala Asn Arg Ile Ala Gly Leu Leu Asp Val Leu
            260                 265                 270
Val Val Thr Ile Pro Asp Thr Thr Leu Leu Glu Asp Ile Ala Leu Leu
        275                 280                 285
Thr Gly Thr Thr Val Phe Ser Ser Pro Pro Phe Ser Asn Lys Pro Pro
    290                 295                 300
Ile Glu Leu Pro Leu Leu Gly Ser Cys Thr Trp Ala Glu Leu Ser Arg
305                 310                 315                 320
Asp His Thr Leu Leu Val Cys Glu Asn Leu Val Pro Glu Val Val Lys
                325                 330                 335
Leu Lys Val Arg Gln Leu Asp His Ala Ile His Asn Ser Glu Asp Glu
            340                 345                 350
Thr Ser Arg Lys Leu Leu Lys Lys Arg Lys His Arg Leu Glu Asn Ser
        355                 360                 365
Ile Ala Ile Ile Pro Val Lys Gln Asp Thr Ala Pro Leu His Glu Leu
    370                 375                 380
Ala Leu Lys Thr Leu Asn Ser Thr Gln Glu Ser Gly Phe Val Leu Gly
385                 390                 395                 400
Gly Gly Gly Leu Phe Phe Thr Leu Leu Arg Ala Ser Leu Pro Leu Gln
                405                 410                 415
Ser Ile Leu Lys Lys Asn Lys Leu Leu Phe Arg Phe Tyr Arg Pro Val
            420                 425                 430
Pro His Ser Leu Gly Thr Thr Gly
        435                 440
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<210>640
<211>129

<212>PRT
<213>Chlamydia trachomatis
<400>640
Thr Gln His Lys Asn Leu Val Ser Ser Trp Glu Ala Glu Gly Ser Ser
1 5 10 15
Leu Arg Tyr Ser Glu Pro Leu Phe Leu Phe Arg Ala Phe Ser Arg Arg
20 25 30
Thr Ser Cys Cys Ser Asp Phe Thr Asp Pro Cys Arg Thr Leu Leu Glu
35 40 45
Gln Leu Val Asn Ser Val Tyr Met Asp Gly Lys Leu Val Ala Asp Lys
50 55 60
Leu Cys Ser Leu Gly Thr Pro Ser Leu Gly Phe Asn Val Val Ser Gln
65 70 75 80
Gln Ile Glu Asp Met Ile Ser Ala Gly Ile Ile Ala Pro Leu Asn Ala
85 90 95
Val Leu Asp Ile Phe Ser Cys Ser Leu His Thr Ala Val Asp Leu Leu
100 105 110
Leu Ala Ser Phe Thr Thr Pro Pro Thr Pro Ala Ala Lys Glu Lys Lys
115 120 125
Thr

<210>641
<211>300
<212>PRT
<213>Chlamydia trachomatis
<400>641
Ile Gly Phe Ser Ile Asn His Arg Phe Ser Met Pro Asn Lys Pro Ser
1 5 10 15
His Ala Phe Arg Leu Ile His Cys Ser Asp Ile His Phe Cys Val Leu
20 25 30
Pro Lys Asn Pro Phe Gln Cys Phe Asn Lys Arg Phe Lys Gly Leu Leu
35 40 45
Arg Gln Leu Ile Gly Gly Val Ser Phe Gln Ala Phe Ala Ile Ser Gln
50 55 60
Arg Phe Pro Gln Leu Val Lys Gln Leu Glu Ala Asp Ser Val Cys Val
65 70 75 80
Thr Gly Asp Met Thr Ile Thr Ala Leu Asp Thr Glu Phe Arg Phe Ala
85 90 95
Lys Glu Phe Leu Ser Arg Val Glu Ser Val Ala Pro Val Tyr Ile Val
100 105 110
Pro Gly Asn His Asp Val Xaa Thr His Arg Ala Leu Lys Lys Gln Thr
115 120 125
Phe Tyr Ser Tyr Phe Pro Asn Lys Glu Leu Gln Thr His Arg Ile Ala
130 135 140
Phe Lys Lys Leu Thr Pro Thr Trp Trp Leu Val Leu Leu Asp Cys Ser
145 150 155 160
Cys Phe Asn Gly Trp Tyr Thr Ala Asn Gly Glu Val Thr Asp Ser Gln
165 170 175
Leu Leu Ala Leu Glu Gln Phe Leu Ser Ser Leu Pro Ala Ser Glu His
180 185 190
Val Ile Val Ala Asn His Tyr Pro Leu Ser Pro Thr Thr Arg Pro Ala
195 200 205
His Asp Leu Leu Asn Tyr Ala Pro Leu Lys Ser Leu Leu Met Asn Ser
210 215 220
Pro Ser Val Arg Leu Tyr Leu His Gly His Asp His Tyr Val Glu Leu
225 230 235 240
Asp His Leu Pro Pro Leu Val Val Asn Ser Gly Ser Leu Thr Leu Pro
245 250 255
Ser Asn Ala Arg Phe His Ile Ile Asp Leu His Pro Glu Gly Gly Tyr
260 265 270
Gln Ile Ala Thr Ala Ala Leu Thr Asn Leu Lys Glu Thr Ser Thr Pro

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        275                 280                 285
Leu Thr Ile Ser Ile Glu Glu Asn Thr Ile Ser Leu
    290                 295                 300
<210>642
<211>101
<212>PRT
<213>Chlamydia trachomatis
<400>642
Pro Phe Leu Ser Lys Lys Ile Pro Ser Leu Tyr Lys Ser Ser Ala Leu
  1               5                  10                  15
Asn Leu Arg Ile Thr Asn Leu Glu Gly Leu Pro Met Lys Glu Lys Lys
            20                  25                  30
Val Leu Glu Leu Ser Pro Glu Ala Thr Leu Leu Lys Lys Leu Arg Asp
        35                  40                  45
Arg Ala Ile Ser Gln Gln Glu Thr Gln Lys Arg Lys Ala Trp Val Glu
    50                  55                  60
Lys Leu Ala Ala Met Pro Glu Ser Thr Arg Asp Tyr Leu Glu Pro Gln
65                  70                  75                  80
Ala His Leu Glu Pro Ser Gln Leu Phe Arg Lys Val Ala Glu Arg Leu
                85                  90                  95
Leu Glu Glu Gly Ala
            100
<210>643
<211>190
<212>PRT
<213>Chlamydia trachomatis
<400>643
Met Val Arg Val Ser Thr Ser Glu Phe Arg Val Gly Leu Arg Val Glu
  1               5                  10                  15
Ile Asp Gly Gln Pro Tyr Val Ile Leu Gln Asn Asp Phe Val Lys Pro
            20                  25                  30
Gly Lys Gly Gln Ala Phe Asn Arg Ile Lys Val Lys Asn Phe Leu Thr
        35                  40                  45
Gly Arg Val Ile Glu Lys Thr Phe Lys Ser Gly Glu Ser Ile Glu Thr
    50                  55                  60
Ala Asp Val Arg Glu Gln Gln Met Arg Leu Leu Tyr Thr Asp Gln Glu
65                  70                  75                  80
Gly Ala Thr Phe Met Asp Asp Glu Thr Phe Glu Gln Glu Leu Ile Phe
                85                  90                  95
Trp Asp Lys Leu Glu Asn Val Arg Gln Trp Leu Leu Glu Asp Thr Ile
            100                 105                 110
Tyr Thr Leu Val Leu Tyr Asn Gly Asp Val Ile Ser Val Glu Pro Pro
        115                 120                 125
Ile Phe Met Glu Leu Thr Ile Ala Glu Thr Ala Pro Gly Val Arg Gly
    130                 135                 140
Asp Thr Ala Ser Gly Arg Val Leu Lys Pro Ala Thr Thr Asn Thr Gly
145                 150                 155                 160
Ala Lys Ile Met Val Pro Ile Phe Ile Glu Glu Gly Glu Val Val Lys
                165                 170                 175
Val Asp Thr Arg Thr Gly Ser Tyr Glu Ser Arg Val Ser Lys
            180                 185                 190
<210>644
<211>290
<212>PRT
<213>Chlamydia trachomatis
<400>644
Phe Met Thr His Gln His Lys Lys Ile Ser Glu Glu Thr Ile Ala Cys
  1               5                  10                  15
Asp Met Leu Glu Arg Tyr Thr Gly Ser Thr Ile Gln Glu Phe Gln Pro
            20                  25                  30
Tyr Leu Leu Leu Thr Asn Phe Gly Tyr Tyr Val Asp Val Phe Ala Glu
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         35                  40                  45
Ile Tyr Gln Val Pro Val Ser Arg Gly Ser Met Phe Ser Ala Ala His
     50                  55                  60
Ala Pro Gln Ile His Thr Ser Ile Ile Asp Phe Lys Leu Gly Ser Pro
 65                  70                  75                  80
Gly Ala Ala Leu Thr Val Asp Leu Cys Ser Phe Leu Pro Asn Ala Thr
                 85                  90                  95
Ala Ala Ile Met Leu Gly Met Cys Gly Gly Leu Arg Ser His Tyr Gln
            100                 105                 110
Ile Gly Asp Tyr Phe Val Pro Val Ala Ser Ile Arg Lys Asp Gly Thr
        115                 120                 125
Ser Asp Ala Tyr Phe Pro Pro Glu Val Pro Ala Leu Ala Asn Phe Val
    130                 135                 140
Val Gln Lys Met Ile Thr Asn Ile Leu Glu Ala Lys Asn Leu Pro Tyr
145                 150                 155                 160
His Ile Gly Ile Thr His Thr Thr Asn Ile Arg Phe Trp Glu Phe Asn
                165                 170                 175
Lys Glu Phe Arg Arg Lys Leu Tyr Glu Asn Lys Ala Gln Thr Val Glu
            180                 185                 190
Met Glu Cys Ala Thr Leu Phe Ala Ala Gly Tyr Arg Arg Asn Leu Pro
        195                 200                 205
Leu Gly Ala Leu Leu Leu Ile Ser Asp Leu Pro Leu Arg Lys Asp Gly
    210                 215                 220
Ile Lys Thr Lys Glu Ser Ser Ser Ala Val Leu Asn Ser His Thr Lys
225                 230                 235                 240
Glu His Ile Leu Thr Gly Val Glu Val Phe Ala Ser Leu Gln Lys Lys
                245                 250                 255
Ser Gly Pro Gly Ile Lys Lys Thr Lys Gly Leu Pro His Met Glu Phe
            260                 265                 270
Gly Gln Ala Asp Asp Ser Leu Ser Glu Gln Thr Gly Val Ser Asp Gly
        275                 280                 285
Asp Phe
    290
<210>645
<211>201
<212>PRT
<213>Chlamydia trachomatis
<400>645
Phe Asp Phe Cys Trp Arg Gly Trp Thr Tyr Thr Ser Ala Tyr Arg Ala
  1                 5                  10                  15
Asn His Val Ala Ala Gly Tyr Ser Arg Ala Lys Ser Asp Ser Ser Ala
             20                  25                  30
Asp Ala Asn Glu Val Lys Gly Ala Trp Leu Ala Ala Leu Glu Ser Ala
         35                  40                  45
Gly Pro Thr Ala Leu Ile Leu Ser Arg Gln Asn Leu Pro Thr Leu Lys
     50                  55                  60
Glu Thr Lys Arg Ser Phe Arg Glu Gly Val Arg Lys Gly Ala Tyr Ile
 65                  70                  75                  80
Leu Val Lys Glu Glu Gly Asp Arg Pro Asp Tyr Thr Leu Cys Ala Ser
                 85                  90                  95
Gly Ser Glu Val His Leu Ala Ile Glu Val Ala Gln Ser Leu Met Ala
            100                 105                 110
Leu Asp Lys Arg Val Arg Val Ile Ser Phe Pro Cys Trp Glu Leu Phe
        115                 120                 125
Glu Arg Gln Asp Val Glu Tyr Arg Glu Ser Val Ile Gly Gly Asp Leu
    130                 135                 140
Gly Leu Arg Val Ser Ile Glu Ala Gly Thr Ala Leu Gly Trp Tyr Lys
145                 150                 155                 160
Tyr Ile Gly Ser Asn Gly Leu Ala Ile Ala Met Asp Gly Phe Gly Met
                165                 170                 175
Ser Gly Ala Pro Asn Glu Val Ala Glu Thr Cys Gly Phe Thr Val Asp
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180 185 190
Asn Ile Val Gln Arg Ile Leu Ser Val
195 200

<210>646
<211>221
<212>PRT
<213>Chlamydia trachomatis
<400>646
Lys Phe Leu Ala Ser Pro Arg Arg Lys Val Phe Arg Ser Ser Ala Val
1 5 10 15
Lys Met Phe Phe Ala Ala Lys Gln Gln Glu Gly Lys Lys Leu Gln Glu
20 25 30
Glu Trp Gln Glu Arg Phe Arg Val Trp Ser Lys Gln Ala Pro Glu Gln
35 40 45
His Gln Glu Tyr Leu Arg Leu Ile Gln Glu Ile Ser Ile Gln Glu Leu
50 55 60
Glu Glu Ile Leu Asn Leu Ile Asp Met Pro Glu Ser Ile Ala Gly Arg
65 70 75 80
Ala Ala Ser Asn Lys Val Ile Gln Val Leu Ala Glu Asp Ile Pro Ser
85 90 95
Leu Val Gly Gly Ser Ala Asp Leu Ser Ser Ser Asp Gly Thr Trp Ile
100 105 110
Ala Lys Glu Gly Thr Ile Ser Ala Ser Asp Phe Leu Gly Arg Asn Ile
115 120 125
Arg Tyr Gly Val Arg Glu Phe Gly Met Gly Thr Ile Met Asn Gly Leu
130 135 140
Ala Tyr Ser Gln Val Phe Arg Pro Phe Gly Gly Thr Phe Leu Val Phe
145 150 155 160
Ser Asp Tyr Leu Arg Ser Ala Ile Arg Leu Ala Ala Leu Ser Lys Leu
165 170 175
Pro Val Ile Tyr Gln Phe Thr His Asp Ser Ile Phe Val Gly Glu Asp
180 185 190
Gly Pro Thr His Gln Pro Ile Glu Gln Ile Met Ser Leu Arg Ala Ile
195 200 205
Pro Gly Leu Arg Val Ile Arg Leu Arg Met Arg Met Lys
210 215 220

<210>647
<211>295
<212>PRT
<213>Chlamydia trachomatis
<400>647
Met Ala Gly Asn Ser Asp Leu Asp Ile Asp Ile Leu Glu Lys Ile Ala
1 5 10 15
Gly Thr Ile Lys Gln Leu Ser Ile Glu Ser Ile Gln Lys Ala Ser Ser
20 25 30
Gly His Pro Gly Met Pro Leu Gly Cys Ala Glu Leu Ala Ala Tyr Leu
35 40 45
Tyr Gly Tyr Val Leu Arg Tyr Asn Ser Lys Asp Ser Arg Trp Val Asn
50 55 60
Arg Asp Arg Phe Val Leu Ser Ala Gly His Gly Ser Ala Leu Leu Tyr
65 70 75 80
Ser Cys Leu His Leu Ala Gly Phe Asp Val Asn Leu Glu Asp Leu Gln
85 90 95
Gln Phe Arg Gln Leu Gln Ser Arg Thr Pro Gly His Pro Glu Phe Arg
100 105 110
Glu Thr Asp Gly Val Glu Ala Thr Thr Gly Pro Leu Gly Gln Gly Val
115 120 125
Gly Asn Ala Val Gly Met Ala Leu Ser Leu Lys Met Leu Gly Ala Arg
130 135 140
Phe Asn Gln Pro Ala Asn Ser Ile Phe Asp Ala Lys Val Tyr Cys Leu
145 150 155 160

Ala Gly Asp Gly Cys Phe Met Glu Gly Val Ser His Glu Ala Cys Ser
165 170 175
Phe Ala Gly Ser Leu Gly Leu Asp Asn Leu Val Leu Ile Tyr Asp Tyr
180 185 190
Asn Glu Ile Ile Leu Asp Gly Thr Leu His Asp Val Ser Ile Glu Asp
195 200 205
Thr Lys Gln Arg Phe Leu Ala Tyr Gly Trp Asp Val Phe Glu Thr Asp
210 215 220
Gly His Asp Phe Glu Ser Leu His Gln Val Phe Thr Gln Ile Lys Lys
225 230 235 240
Ser Gln Cys Lys Pro Thr Leu Ile Ile Ala His Thr Ile Ile Gly His
245 250 255
Gly Ser Pro Lys Glu Gly Thr Asn Lys Ala His Gly Ser Pro Leu Gly
260 265 270
Glu Asp Gly Val Ala Gln Thr Lys Ser Phe Trp His Leu Pro Glu Glu
275 280 285
Lys Phe Phe Val Leu Arg Gln
290 295

<210>648
<211>199
<212>PRT
<213>Chlamydia trachomatis
<400>648
Met Ser Asp Pro Leu Val Tyr Ser Phe Leu Lys Pro Arg Ala Ser Ser
1 5 10 15
Leu Gln Lys Val Pro Thr Lys Leu Cys Ser Leu Lys Leu Val Asp Ser
20 25 30
Val Phe Gly Gln Ile Phe Leu Tyr Cys Cys Glu Leu Lys Asn Gly Leu
35 40 45
Pro Met Leu Ser Asn Thr Leu Arg Ser Asn Phe Leu Lys Phe Tyr Ala
50 55 60
Asn Arg Asn His Thr Pro Val Ala Ser Ser Pro Val Phe Pro His Asn
65 70 75 80
Asp Pro Ser Ile Leu Phe Thr Asn Ala Gly Met Asn Gln Phe Lys Asn
85 90 95
Ile Phe Leu Gly Lys Glu Gln Thr Ser Tyr Thr Arg Ala Thr Thr Ser
100 105 110
Gln Lys Cys Ile Arg Ala Gly Gly Lys His Asn Asp Leu Glu Asn Val
115 120 125
Gly His Thr Ser Arg His Leu Thr Phe Phe Glu Met Leu Gly Asn Phe
130 135 140
Ser Phe Gly Asp Tyr Phe Lys Gln Asp Ala Ile Ser Phe Ala Trp Glu
145 150 155 160
Val Ser Leu Ser Val Phe Asn Phe Asp Pro Asp Phe Ile Tyr Ala Thr
165 170 175
Val His Glu Lys Asp Asp Glu Xaa Ser Leu Phe Gly Lys Asn Ile Phe
180 185 190
Arg Gln Thr Glu Phe Phe Val
195

<210>649
<211>724
<212>PRT
<213>Chlamydia trachomatis
<400>649
Xaa Phe Ala Leu Trp Glu Lys Tyr Leu Pro Thr Asp Arg Ile Phe Arg
1 5 10 15
Leu Thr Asp Lys Asp Asn Phe Trp Ser Met Ala Asp Thr Gly Pro Cys
20 25 30
Gly Phe Cys Ser Glu Leu Leu Phe Asp Arg Gly Glu Lys Phe Gly Lys
35 40 45
Ala Ala Ser Pro Leu Glu Asp Val Asp Gly Glu Arg Phe Leu Glu Tyr

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     50                  55                  60
Trp Asn Leu Val Phe Met Glu Phe Asn Arg Thr Ser Asp Gly Thr Leu
 65                  70                  75                  80
Leu Ala Leu Gln Lys Lys Cys Val Asp Thr Gly Ala Gly Leu Glu Arg
                 85                  90                  95
Leu Val Ser Leu Leu Ala Glu Thr Lys Thr Val Phe Glu Ala Asp Val
            100                 105                 110
Leu Arg His Leu Ile Ser Lys Ile Glu Asn Leu Ser Gly Thr Thr Tyr
        115                 120                 125
Ser Pro Thr Glu Ala Lys Gly Ala Ala Phe Arg Val Ile Ala Asp His
    130                 135                 140
Ile Arg Ser Leu Ser Phe Ala Ile Ala Asp Gly Leu Leu Pro Gly Asn
145                 150                 155                 160
Thr Glu Arg Gly Tyr Val Leu Arg Lys Ile Leu Arg Arg Ala Val Asn
                165                 170                 175
Tyr Gly Lys Arg Leu Gly Phe Asn Arg Pro Phe Leu Ala Asp Val Val
            180                 185                 190
Pro Ser Leu Val Asp Val Met Gly Glu Ala Tyr Pro Glu Leu Ser Ala
        195                 200                 205
Ser Val Thr Gln Ile Gln Glu Val Leu Thr Thr Glu Glu Glu His Phe
    210                 215                 220
Phe Lys Thr Leu Gln Arg Gly Gly Asn Leu Leu Gln Gln Val Val Lys
225                 230                 235                 240
Ser Ser Ala Ser Ser Ala Lys Ile Ser Gly Glu Asp Ala Phe Lys Leu
                245                 250                 255
Lys Asp Thr Tyr Gly Leu Pro Ile Asp Glu Ile Ala Leu Leu Ala Lys
            260                 265                 270
Asp Tyr Asn Tyr Ala Ile Asp Met Asp Thr Phe Glu Lys Leu Glu Val
        275                 280                 285
Glu Ala Lys Glu Arg Ser Arg Lys Asn Thr Lys Lys Thr Lys Asn Asp
    290                 295                 300
Ser Asp Ser Val Phe Gln Asp Leu Asp Pro Thr Asn Thr Ser Glu Phe
305                 310                 315                 320
Ile Gly Tyr Asp Thr Leu Ser Cys Asp Thr Phe Ile Glu Gly Ile Ile
                325                 330                 335
Lys Tyr Asn Glu Ile Ala Ser Ser Leu Glu Glu Gly Asp Glu Gly Ala
            340                 345                 350
Ile Ile Leu Arg Thr Thr Pro Phe Tyr Ala Glu Lys Gly Gly Gln Ile
        355                 360                 365
Gly Asp Ser Gly Glu Ile Phe Cys Glu Ser Gly Thr Phe Leu Val Ser
    370                 375                 380
His Thr Ile Ala Pro Lys Ala Gly Leu Ile Val His Leu Gly Lys Leu
385                 390                 395                 400
Ser Gln Gly Ser Leu Thr Thr Thr Met Ala Val Thr Ala Gln Val Asn
                405                 410                 415
Gln Asn Leu Arg Lys Lys Thr Ala Asn Asn His Thr Gly Cys His Leu
            420                 425                 430
Leu His Lys Ala Leu Glu Met Thr Leu Gly Glu His Ile Arg Gln Pro
        435                 440                 445
Gly Ser Tyr Val Asp Ser Gln Lys Ile Arg Leu Asp Phe Thr His Asn
    450                 455                 460
Lys Ala Leu Ser Pro Glu Asp Leu Leu Ala Ile Glu Thr Leu Val Asn
465                 470                 475                 480
Glu Lys Ile Arg Glu Asn Asp Pro Val Thr Ile Arg Glu Val Leu Tyr
                485                 490                 495
Ser Asp Val Met Ser Ser Ser Glu Ile Lys Gln Phe Cys Gly Asp Lys
            500                 505                 510
Tyr Gly Asp Ile Val Arg Val Val Leu Ala Gly Phe Ser His Glu Leu
        515                 520                 525
Cys Gly Gly Thr His Ala Gln Ala Thr Gly Asp Ile Gly Tyr Phe Arg
    530                 535                 540
```

Sequence Listing

```
Ile Thr Lys Glu His Ala Val Ala Thr Gly Ile Arg Arg Ile Glu Ala
545                 550                 555                 560
Thr Thr Gly Glu Asp Ala Glu Asn Ile Ala Arg Gly Gln Asp Val Asp
                565                 570                 575
Leu Asn Glu Ile Ala Thr Val Ile Gln Ser Pro Lys Asp Gln Ile Leu
            580                 585                 590
Val Lys Ile Arg Ser Val Met Glu Glu Lys Lys Asp Leu Ala Lys Gln
        595                 600                 605
Val Ala Asp Leu Glu Asn Gln Leu Val Gln Gln Gln Val Lys Thr Leu
    610                 615                 620
Leu Thr Ser Cys Glu Lys Ile Cys Asp Thr Ser Tyr Leu Val Tyr Tyr
625                 630                 635                 640
Leu Thr Glu Glu Glu Gly Gln Arg Ile Gln His Tyr Ala Asn Ala Ile
                645                 650                 655
His Lys Glu Ile Pro Thr Asn Phe Ile Ser Leu Trp Ile Thr Glu Lys
            660                 665                 670
Asn Gly Arg Tyr Ile Val Leu Ser Arg Val Ser Asp Asp Leu Thr Lys
        675                 680                 685
Arg Gly Val Gln Ala His Thr Leu Leu Ala Glu Leu Leu Ala Pro Tyr
    690                 695                 700
Gly Gly Arg Cys Gly Gly Lys Ala Ile Ser Ala Gln Gly Ser Ser Ala
705                 710                 715                 720
Glu Tyr Leu Lys
```

<210>650
<211>1084
<212>PRT
<213>Chlamydia trachomatis
<400>650

```
Gln Asn Phe Lys Thr Met Asp Phe Asp Pro Thr Ser Ile Asp Phe Ser
  1               5                  10                  15
Ser Phe Pro Leu Leu Lys Asp Thr Lys Leu Pro Ser Leu Val Glu Asn
             20                  25                  30
Leu His Ser Gly Ala Arg Ser Phe Val Ile Ala Lys Leu Phe Lys Glu
         35                  40                  45
Leu Lys Arg Ser Ile Val Val Ile Thr Thr Pro Ala Lys Leu Asp Asp
     50                  55                  60
Leu Phe Glu Asp Leu Thr Thr Leu Leu Ala Glu Ser Pro Leu Glu Phe
 65                  70                  75                  80
Pro Ala Ser Glu Ile Asp Leu Ser Pro Lys Leu Val Asn Val Asp Ala
                 85                  90                  95
Val Gly Lys Arg Asp His Ile Leu Tyr Ser Leu Gln Lys Gln Ser Ala
            100                 105                 110
Pro Val Ile Cys Val Thr Thr Leu Lys Ala Leu Leu Glu Arg Thr Pro
        115                 120                 125
Ser Pro Glu Ser Met Ile Arg Asp His Leu Glu Leu Arg Val Gly Glu
    130                 135                 140
Glu Leu Asp Pro Asp Thr Leu Leu Asp Leu Cys Lys Ser Leu Gly Tyr
145                 150                 155                 160
Arg His Glu Ala Leu Ala Arg Glu Lys Gly Asp Phe Ala Phe Arg Gly
                165                 170                 175
Gly Ile Val Asp Ile Phe Pro Leu Ser Ser Pro Glu Pro Phe Arg Ile
            180                 185                 190
Glu Phe Trp Gly Asp Arg Val Ser Ser Ile Arg Ser Tyr Asn Pro Ser
        195                 200                 205
Asp Gln Leu Ser Thr Gly Lys Leu Ser Gln Ile Thr Ile Ser Pro Ala
    210                 215                 220
Thr Ala Ile Ile Pro Thr Asp Lys Leu Ser Tyr Ser Leu Leu Asp Tyr
225                 230                 235                 240
Phe Lys Ala Phe Pro Leu Cys Ile Phe Asp Gly Leu Ser Ser Leu Glu
                245                 250                 255
```

```
Asp Asn Phe Ser Asp Ile Ala Gly Ile Leu Ala Ser Leu Pro Lys Arg
            260                 265                 270
Phe Met Pro Ile Gln Asp Leu Cys Gln Arg Ile Leu Lys Glu Phe Thr
        275                 280                 285
Pro Leu Phe Phe Glu Glu Lys Thr Phe Pro Asn Leu Ile Ser His Lys
    290                 295                 300
Asp Thr Gly Phe Ser Ile Glu Ala Phe His Lys Lys Ile Ser Val Gln
305                 310                 315                 320
Arg Val Ser Leu Pro Phe Ile Tyr Pro Pro Ala Leu Ile Glu Thr Ser
                325                 330                 335
Gly Glu Gln Asn Pro Leu Leu Ala Phe Leu Lys Thr Phe Gln Asp Phe
            340                 345                 350
Cys Ala Gly Arg Thr Leu Ser Leu Ala Leu Tyr Cys Ser Asn Thr Lys
        355                 360                 365
Ser Leu Lys Glu Ala His Asp Leu Ala Ala Ala Cys Ile Pro Asn Thr
    370                 375                 380
Gln Ile Tyr Asp His Pro Thr Thr Leu Ser Ser Ser Phe Ala Leu Val
385                 390                 395                 400
Glu Ala Gly Phe Ala Ala Val Ser Leu Ser Glu Phe Ala Ala Ser Lys
                405                 410                 415
Val Leu Arg Arg Gln Lys Gln Arg Asn Tyr Phe Ser Thr Thr Thr Glu
            420                 425                 430
Glu Val Tyr Ile Pro Val Pro Gly Glu Thr Val Val His Leu His Asn
        435                 440                 445
Gly Ile Gly Lys Phe Ile Gly Ile Glu Lys Lys Pro Asn His Leu Asn
    450                 455                 460
Ile Glu Thr Asp Tyr Leu Val Leu Glu Tyr Ala Asp Lys Ala Arg Leu
465                 470                 475                 480
Tyr Val Pro Ser Asp Gln Ala Tyr Leu Ile Ser Arg Tyr Val Gly Ala
                485                 490                 495
Ser Glu Lys Ala Pro Asp Leu His His Leu Asn Gly Ala Lys Trp Arg
            500                 505                 510
Arg Ser Arg Glu Leu Ser Glu Asn Ser Val Ile Leu Tyr Ala Glu Lys
        515                 520                 525
Leu Ile Gln Met Glu Ala Gln Arg Ser Thr Ala Asn Ser Phe Ile Tyr
    530                 535                 540
Pro Pro His Gly Glu Glu Val Ile Lys Phe Ala Glu Ser Phe Pro Tyr
545                 550                 555                 560
Glu Glu Thr Pro Asp Gln Leu Lys Ala Ile Asp Gln Ile Tyr Ala Asp
                565                 570                 575
Met Met Ser Asp Lys Leu Met Asp Arg Leu Ile Cys Gly Asp Ala Gly
            580                 585                 590
Phe Gly Lys Thr Glu Ile Ile Met Arg Ala Ala Val Lys Ala Val Cys
        595                 600                 605
Asp Gly His Lys Gln Val Ile Val Met Val Pro Thr Thr Ile Leu Ala
    610                 615                 620
Asn Gln His Phe Glu Thr Phe Ser Gln Arg Met Ala Gly Leu Pro Ile
625                 630                 635                 640
Thr Ile Gly Leu Leu Ser Arg Phe Ser Gln Gly Lys Thr Met Lys Lys
                645                 650                 655
Thr Leu Glu Asp Ile Ala Gln Gly Arg Ile Asp Ile Leu Ile Gly Thr
            660                 665                 670
His Lys Val Ile Asn Lys Ala Ile Glu Phe His Asn Pro Gly Leu Leu
        675                 680                 685
Ile Ile Asp Glu Glu Gln Arg Phe Gly Val Lys Ala Lys Asp Ser Leu
    690                 695                 700
Lys Glu Arg Phe Pro Thr Ile Asp Cys Leu Thr Val Ser Ala Thr Pro
705                 710                 715                 720
Ile Pro Arg Thr Leu Tyr Leu Ser Leu Ser Gly Ala Arg Asp Leu Ser
                725                 730                 735
Leu Ile Thr Met Pro Pro Leu Asp Arg Leu Pro Val Ser Thr Phe Val
```

740 745 750
Met Glu His Ser Glu Glu Thr Leu Ser Ala Ala Ile Arg His Glu Leu
755 760 765
Leu Arg Gly Gly Gln Val Tyr Val Ile His Asn Arg Ile Glu Ser Ile
770 775 780
Phe Arg Leu Gly Glu Thr Ile Arg Thr Leu Ile Pro Glu Ala Arg Ile
785 790 795 800
Gly Val Ala His Gly Gln Met His Ala Asp Glu Leu Ala Ser Ile Phe
805 810 815
Tyr Lys Phe Lys Thr Gln Gln Thr Asn Val Leu Val Ala Thr Ala Leu
820 825 830
Ile Glu Asn Gly Ile Asp Ile Pro Asn Ala Asn Thr Ile Leu Ile Asp
835 840 845
His Ala Asp Lys Phe Gly Met Ala Asp Leu Tyr Gln Met Lys Gly Arg
850 855 860
Val Gly Arg Trp Asn Lys Lys Ala Tyr Cys Tyr Xaa Leu Val Pro His
865 870 875 880
Leu Asp Arg Leu Ser Gly Pro Thr Ser Lys Arg Leu Glu Ala Leu Asn
885 890 895
Lys Gln Glu Tyr Gly Gly Gly Met Lys Ile Ala Leu His Asp Leu Glu
900 905 910
Ile Arg Gly Ala Gly Asn Ile Leu Gly Thr Asp Gln Ser Gly His Ile
915 920 925
Ser Ala Val Gly Phe Asn Leu Tyr Cys Lys Leu Leu Lys Lys Ala Val
930 935 940
Ala Ala Leu Lys His Lys Gln Lys Pro Met Leu Phe His Asp Asp Ile
945 950 955 960
Lys Ile Glu Phe Pro Tyr His Ala Arg Ile Pro Glu Asp Tyr Ile Asp
965 970 975
Leu Ala Ser Met Arg Ile Glu Phe Tyr Gln Lys Ile Gly Asn Ala Glu
980 985 990
Ser Glu Glu Glu Leu Glu Ala Ile Glu Glu Glu Leu Arg Asp Arg Phe
995 1000 1005
Gly Pro Ser Pro Glu Ala Ile Ser Trp Leu Phe Ala Leu Ala Arg Ile
1010 1015 1020
Arg Leu Ile Ala Gln Glu Tyr His Leu Ser Ser Ile Lys Gly Thr Gly
1025 1030 1035 1040
Asn Ala Leu Tyr Ile Gln Gln Tyr His Asp Lys Asp Lys Gln Ile Gln
1045 1050 1055
Lys Thr Leu Pro Tyr Ser Leu Ser Pro Thr Pro Glu Leu Leu Val Lys
1060 1065 1070
Glu Val Gln Glu Ser Val Glu Lys Ala Phe Pro Lys
1075 1080

<210>651
<211>136
<212>PRT
<213>Chlamydia trachomatis
<400>651
Ser Arg Ile Ile Asp Ser Gly Glu Gly Val Leu Ser Asn Lys Ala Phe
1 5 10 15
Ser Val Val Thr Gln Ile Thr Gly Ala Leu Cys Phe Cys Arg Glu Tyr
20 25 30
Arg Ile Trp Ser Leu Phe Pro Thr Ala Ser Thr Phe Thr Ser Leu Gly
35 40 45
Asp Lys Ser Ile Ser Glu Ala Gly Asn Ser Arg Gly Asp Ser Ala Asn
50 55 60
Arg Val Val Lys Ser Ser Asn Lys Ser Ser Ser Phe Ala Gly Val Val
65 70 75 80
Ile Thr Thr Ile Glu Arg Leu Ser Ser Leu Asn Ser Phe Ala Met Thr
85 90 95
Lys Asp Leu Ala Pro Glu Trp Arg Phe Ser Thr Lys Asp Gly Ser Phe

```
            100                 105                 110
Val Ser Phe Asn Lys Gly Lys Leu Glu Lys Ser Met Leu Val Gly Ser
        115                 120                 125
Lys Ser Ile Val Leu Lys Phe Cys
    130                 135
<210>652
<211>337
<212>PRT
<213>Chlamydia trachomatis
<400>652
Arg Met Pro Met Thr Gly Phe Tyr Glu Thr Ile Ser Pro Arg Asp Gln
  1               5                  10                  15
Gln Arg Pro Pro Ile Trp Phe Leu Arg Gln Val Gly Arg Tyr Ile Pro
            20                  25                  30
Gln Tyr Gln Glu Leu Lys Arg Asn Arg Ser Leu Lys Asp Phe Phe Leu
        35                  40                  45
Asp Thr Glu Ser Ile Val Glu Ala Thr Leu Leu Gly Pro Ser Leu Leu
    50                  55                  60
Gly Val Asp Ala Ala Ile Val Phe Ala Asp Ile Leu Ser Ile Leu Glu
65                  70                  75                  80
Gly Phe Ser Val Asp Tyr Arg Phe Ala Pro Gly Pro Glu Val Ser Tyr
                85                  90                  95
Ser Pro His Glu Pro Leu Ile Phe Thr Lys Asp Pro Gln Glu Thr Phe
            100                 105                 110
Ser Phe Leu Leu Glu Ala Ile Gln Gln Leu Thr Lys Arg Leu Thr Val
        115                 120                 125
Pro Leu Ile Ala Phe Ala Ala Ser Pro Phe Thr Leu Ala Ser Tyr Leu
    130                 135                 140
Ile Glu Gly Gly Ala Ser Arg Asp Tyr Pro Lys Thr Ile Ala Phe Leu
145                 150                 155                 160
Tyr Gln Tyr Pro Asp Arg Phe Lys Ala Leu Leu Asp Glu Ile Thr Leu
                165                 170                 175
Gly Thr Ala Thr Tyr Leu Gln Met Gln Val Gln Ala Gly Ala Ala Ala
            180                 185                 190
Ile Gln Leu Phe Glu Ser Ser Ser Leu Arg Leu Pro Pro His Leu Phe
        195                 200                 205
Ala Lys Tyr Val Val Ala Pro Asn Thr Lys Leu Ile Arg Gln Ile Lys
    210                 215                 220
Gln Thr Gly Asn Pro Pro Ile Ser Leu Phe Cys Arg Cys Phe Tyr Gln
225                 230                 235                 240
Glu Phe Leu Ser Leu Tyr Ala Ile Gly Ala Asp Thr Leu His Pro Asp
                245                 250                 255
Tyr His Val Glu Leu Pro Glu Val Tyr Arg Gln Ile His Ser Pro Gly
            260                 265                 270
Ser Ile Gln Gly Asn Phe Asp Pro Ala Leu Leu Leu Leu Pro Gln Asp
        275                 280                 285
Ala Leu Ile Ala His Leu Glu Ala Tyr Leu Ala Pro Leu Lys Gln Gln
    290                 295                 300
Ser His Tyr Ile Phe Asn Leu Gly His Gly Ile Leu Pro Gln Thr Pro
305                 310                 315                 320
Ile Glu Asn Val Gln Ala Val Val Ser Cys Leu Thr Ser Ile Ser Thr
                325                 330                 335
Ser

<210>653
<211>320
<212>PRT
<213>Chlamydia trachomatis
<400>653
Met Phe Asn Ile Asn Phe Asn Phe Leu Lys Gly Leu His Gln Pro Ala
  1               5                  10                  15
```

```
Pro Arg Tyr Thr Ser Tyr Pro Thr Ile Val Asp Trp Glu Ser Ser Ser
            20                  25                  30
Asp Tyr Gly Tyr Thr Ala Leu Glu Arg Leu Ala Gln Glu Gln Asp Pro
        35                  40                  45
Leu Ser Leu Tyr Phe His Ile Pro Phe Cys Gln Ser Met Cys Leu Tyr
    50                  55                  60
Cys Gly Cys Thr Val Val Leu Asn Arg Lys Ala Glu Ile Val Asp His
65                  70                  75                  80
Tyr Ile Glu Thr Leu Ile Gln Glu Met Arg Leu Ala Phe Ser Leu Leu
                85                  90                  95
Gly Gly Lys Lys Pro Val Ser Arg Ile His Phe Gly Gly Gly Thr Pro
            100                 105                 110
Ser Arg Leu Ser Arg Ala Gln Phe Glu Arg Leu Phe Thr His Ile His
        115                 120                 125
Arg Phe Phe Asp Leu Ser Asn Ile Glu Glu Leu Ala Ile Glu Phe Asp
    130                 135                 140
Pro Arg Ser Leu Arg Glu Asp Ala Asp Lys Pro Leu Phe Leu His Asn
145                 150                 155                 160
Leu Gly Phe Asn Arg Val Ser Leu Gly Ile Gln Asp Thr Gln Trp Glu
                165                 170                 175
Val Gln Glu Ala Val Arg Arg Arg Gln Ser Tyr Glu Glu Ser Leu Leu
            180                 185                 190
Ala Tyr Gln Leu Phe Arg Asp Leu Lys Phe Thr Gly Ile Asn Ile Asp
        195                 200                 205
Leu Ile Tyr Gly Leu Pro Lys Gln Thr Gln Ser Ser Phe Lys Gln Thr
    210                 215                 220
Ile Glu His Ile Leu Asp Met Arg Pro Asp Arg Leu Ala Leu Phe Ser
225                 230                 235                 240
Phe Ala His Val Pro Trp Ala Lys Pro His Gln Lys Ala Leu Arg Thr
                245                 250                 255
Lys Asp Leu Pro Ser Met Glu Glu Lys Phe Ala Ile Tyr Ser Gln Ser
            260                 265                 270
Arg His Thr Leu Ile Gln Glu Gly Tyr Gln Ala Ile Gly Leu Asp His
        275                 280                 285
Phe Ser Leu Pro Asp Asp Pro Leu Thr Ile Ala Leu Lys Asn Lys Thr
    290                 295                 300
Leu Ile Arg Asn Phe Gln Gly Thr Leu Phe Leu Leu Lys Lys Ile Phe
305                 310                 315                 320
<210>654
<211>149
<212>PRT
<213>Chlamydia trachomatis
<400>654
Phe Pro Arg Tyr Ser Leu Pro Pro Glu Glu Asp Leu Leu Gly Phe Gly
  1               5                  10                  15
Ile Ser Ala Thr Ser Phe Ile Arg Gly Ile Tyr Leu Gln Asn Val Lys
            20                  25                  30
Asp Leu Arg Glu Tyr Ser Glu Thr Ile Gln Ala Ser Lys Leu Ala Thr
        35                  40                  45
Val Lys Gly Lys Ile Leu Ser Gln Asp Asp Lys Ile Arg Lys Trp Val
    50                  55                  60
Ile His Thr Leu Met Cys Ser Phe Ser Leu Ser Lys Leu Glu Phe Glu
65                  70                  75                  80
Gln Arg Phe His Glu Arg Phe Asp Arg Tyr Phe Ala Asp Ser Tyr Asp
                85                  90                  95
Arg Leu Cys Gly Met Glu Ser Ala Gly Leu Ile Arg Gln Asp Ser Ser
            100                 105                 110
Ser Leu Gln Val Thr Pro Leu Gly Glu Leu Phe Val Arg Val Ile Ala
        115                 120                 125
Thr Ala Phe Asp His Tyr Phe Leu Lys Asn Ile Val Glu Lys Pro Leu
    130                 135                 140
```

Phe Ser Lys Ser Ile
145

<210>655
<211>424
<212>PRT
<213>Chlamydia trachomatis
<400>655

```
Met Lys His Ala Leu Ile Val Gly Ser Gly Ile Ala Gly Leu Ser Ala
  1               5                  10                  15
Ala Trp Trp Leu His Lys Arg Phe Pro His Val Gln Leu Ser Ile Leu
            20                  25                  30
Glu Lys Glu Ser Arg Ser Gly Gly Leu Ile Val Thr Glu Lys Gln Gln
        35                  40                  45
Gly Phe Ser Leu Asn Met Gly Pro Lys Gly Phe Val Leu Ala His Asp
    50                  55                  60
Gly Gln His Thr Leu His Leu Ile Gln Ser Leu Gly Leu Ala Asp Glu
65                  70                  75                  80
Leu Leu Tyr Ser Ser Pro Glu Ala Lys Asn Arg Phe Ile His Tyr Asn
                85                  90                  95
Asn Lys Thr Arg Lys Val Ser Pro Trp Thr Ile Phe Lys Gln Asn Leu
            100                 105                 110
Pro Leu Ser Phe Ala Lys Asp Phe Phe Ala Arg Pro Tyr Lys Gln Asp
        115                 120                 125
Ser Ser Val Glu Ala Phe Phe Lys Arg His Ser Ser Ser Lys Leu Arg
    130                 135                 140
Arg Asn Leu Leu Asn Pro Ile Ser Ile Ala Ile Arg Ala Gly His Ser
145                 150                 155                 160
His Ile Leu Ser Ala Gln Met Ala Tyr Pro Glu Leu Thr Arg Arg Glu
                165                 170                 175
Ala Gln Thr Gly Ser Leu Leu Arg Ser Tyr Leu Lys Asp Phe Pro Lys
            180                 185                 190
Glu Lys Arg Thr Gly Pro Tyr Leu Ala Thr Leu Arg Ser Gly Met Gly
        195                 200                 205
Met Leu Thr Gln Ala Leu His Asp Lys Leu Pro Ala Thr Trp Tyr Phe
    210                 215                 220
Ser Ala Pro Val Ser Lys Ile Arg Gln Leu Ala Asn Gly Lys Ile Ser
225                 230                 235                 240
Leu Ser Ser Pro Gln Gly Glu Ile Thr Gly Asp Met Leu Ile Tyr Ala
                245                 250                 255
Gly Ser Val His Asp Leu Pro Ser Cys Leu Glu Glu Ile Pro Glu Thr
            260                 265                 270
Lys Leu Ile Lys Gln Thr Thr Ser Ser Trp Asp Leu Ser Cys Val Ser
        275                 280                 285
Leu Gly Trp His Ala Ser Leu Pro Ile Pro His Gly Tyr Gly Met Leu
    290                 295                 300
Phe Ala Asp Thr Pro Pro Leu Leu Gly Ile Val Phe Asn Thr Glu Val
305                 310                 315                 320
Phe Pro Gln Pro Glu Arg Pro Asn Thr Ile Val Ser Leu Leu Leu Glu
                325                 330                 335
Gly Arg Trp His Gln Glu Glu Ala Tyr Ala Phe Ser Leu Ala Ala Ile
            340                 345                 350
Ser Glu Tyr Leu Gln Ile Tyr Thr Pro Pro Gln Ala Phe Ser Leu Phe
        355                 360                 365
Ser Pro Arg Glu Gly Leu Pro Gln His His Val Gly Phe Ile Gln Ser
    370                 375                 380
Arg Gln Arg Leu Leu Ser Lys Leu Pro His Asn Ile Lys Ile Val Gly
385                 390                 395                 400
Gln Asn Phe Ala Gly Pro Gly Leu Asn Arg Ala Thr Ala Ser Ala Tyr
                405                 410                 415
Lys Ala Ile Ala Ser Leu Leu Pro
            420
```

<210>656
<211>856
<212>PRT
<213>Chlamydia trachomatis
<400>656

```
Lys Ile Leu His Arg Ser Phe Gln Asn Gly Leu Leu Arg Cys Pro His
  1               5                  10                  15
Asp Glu Lys Ser Leu Gln Ser Ser Leu Lys Arg Asn Lys Gln Val Phe
            20                  25                  30
Phe His Met Asn Ile Tyr Arg Phe Ile Ser Gly Ser Cys Ser Trp Phe
        35                  40                  45
Leu Ile Gly Trp Gly Ile Cys Phe Gly Ala Asp Val Pro Leu Ser Phe
    50                  55                  60
Gly His Gln Cys Ala Asp Val Arg Lys Ala Met Gln Glu Gly Lys Pro
65                  70                  75                  80
Leu Leu Pro Ile Phe Asp Ala Phe Ile Arg Arg Ile Val Asn Asp Ser
                85                  90                  95
Ser Ser Leu Ser Glu Lys Asp Trp Glu Thr Ala Thr Trp Leu Ile Cys
            100                 105                 110
Glu Tyr Ile Arg Gly Ser Leu Lys Arg Gly Glu Gln Glu Leu Cys Ser
        115                 120                 125
Glu Leu Val Lys Pro Leu Phe Ser Leu Ala Val Met Pro Pro Gln Ser
    130                 135                 140
Lys Ala Arg Ile Lys Gln Val Trp Gln Val Leu Asn Pro Gln Gly Ala
145                 150                 155                 160
Ser Leu Lys Asp Leu Val Arg Leu Leu Glu Ser Ser Gly Cys Ser Ser
                165                 170                 175
Ser Pro Gln Asp His Leu Leu Leu Ser Leu Tyr Asn Met Thr Leu His
            180                 185                 190
Ser Ser Tyr Glu Asn Lys Lys Ala Glu Ile Leu Phe Ala Arg Glu Gln
        195                 200                 205
Lys Asn Tyr Gln Asp Ala Leu Arg Leu Cys Glu Glu Leu Gln Glu Asn
    210                 215                 220
Leu Thr Ser Gly Leu Cys Ser Pro Leu Ser Thr Val Tyr Glu Val Glu
225                 230                 235                 240
Gln Ala Phe Leu Lys Arg Ile Ser Leu Ala Ile Arg Trp Glu Gln Glu
                245                 250                 255
Lys Glu Leu Gln Gly Ser Pro Ser Ile Glu Leu Leu Leu Ala Tyr Cys
            260                 265                 270
Ser Ala Glu Glu Ser Tyr Ala Glu Ala Val Glu Gln Leu Ile Lys Lys
        275                 280                 285
Ile Glu Leu Gly Ser Leu Asp Arg Ser Gln Glu Val Asp Ala Ile Leu
    290                 295                 300
Phe Ala His Ala Leu Ser Lys Leu Pro Trp Glu Glu Thr Leu Gly Glu
305                 310                 315                 320
His Glu Leu Glu Val Leu Ile Ser Gly Gly His Tyr Leu Thr Ser Ile
                325                 330                 335
Tyr Ser Gln His Ala Tyr Phe Ser Leu Leu Glu Gln Tyr Phe Lys Lys
            340                 345                 350
Ser Gln Ile Gln Glu Ile Ser Arg Leu Leu Asp Phe Gly Lys Thr Val
        355                 360                 365
Phe Val Glu Thr His Lys Lys Tyr Pro Glu Tyr Leu Phe Phe Leu Gly
    370                 375                 380
Lys Tyr Trp Phe Tyr Leu Arg Asp Phe Ser Arg Ala Glu Glu Ala Phe
385                 390                 395                 400
Ser Ser Val Ile Arg Tyr Ala Asp Arg Leu Gly Val Ser Leu Ala Glu
                405                 410                 415
Thr Tyr Glu Tyr Leu Gly Cys Leu Ala Cys Tyr Lys Gly His Tyr Ala
            420                 425                 430
Ser Ala Lys Glu Phe Phe Leu Lys Ala Tyr Lys Gly Trp Gly Arg Glu
        435                 440                 445
```

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Asp Ala Gly Ile Gly Leu Tyr Leu Leu Ala Val Leu Glu Lys Asp Pro
450 455 460
Ile Leu Cys Gln Gln Val Arg Glu Gln Val Ser Leu Ser Phe Ser His
465 470 475 480
Gln Glu Phe Leu Lys Trp Met Asp Arg Asn Phe Leu Pro Glu Pro Gly
485 490 495
Lys Glu Gly Ser Ser Phe Phe Lys Val Leu Gly Ser Ser Arg Xaa Leu
500 505 510
Ser Glu Glu Glu Phe Tyr Gly Xaa Leu Leu Lys Glu Met Ile Ser Arg
515 520 525
Xaa His Arg Glu Lys Leu Ser Cys Ser Pro Ile Gln Arg Leu Val Tyr
530 535 540
Asp Gln Leu Asp Arg Glu Ile Gln Leu Arg Leu Thr Glu Thr Leu Ile
545 550 555 560
Gln Thr Glu Asp Leu Leu Val Arg Arg Lys Leu Ser Leu Trp Arg Ala
565 570 575
Leu Tyr Glu Gly Ser Phe Val Ser Trp Gly Ser Ala His Gln Asn Gln
580 585 590
Thr Leu Phe Glu Lys Ser Ile Leu Gln Cys Phe Ser Ala Leu Ser Gln
595 600 605
Gln Asp Pro Ser Ala Ile Gln Gln Ile Ala Glu Ala Phe Ser Ser Gly
610 615 620
Ala Ser Leu Trp Gln Ser Ser Leu Arg Met Val Trp Ala Val Ser His
625 630 635 640
Thr Ser Glu Asn Pro Ile Ser Lys Ala Tyr Ser Leu Gly Ile Ser Asp
645 650 655
Arg Pro Trp Gly Asp Arg Leu Tyr Leu Leu Gln Tyr Ser Leu Glu Gln
660 665 670
Tyr Leu Ser Gly Asp Thr Glu Leu Leu Glu Tyr Leu Thr Gln Phe Pro
675 680 685
Glu Leu Phe Pro Asn Ser Pro Leu Leu Pro Leu Val Tyr Tyr Leu Gln
690 695 700
Ala Arg Gly Glu Gly Asp Pro Ile Arg Lys Ile Ala Trp Leu Thr Lys
705 710 715 720
Ala Leu Glu Thr Phe Thr Glu Asn Ser Leu Leu Ala Lys Glu Met Lys
725 730 735
Ala Trp Ala Pro Leu Tyr Tyr Leu Met Arg Met Asp Leu Ala Glu Thr
740 745 750
Tyr Leu Tyr Leu Gly Asn Val Ser Lys Ser Asp Thr Leu Phe Glu Ala
755 760 765
Ile Gln Glu Glu Trp Asp Ala Pro His His Pro Tyr Val Lys Leu Ile
770 775 780
Asp Pro Pro His Ile Arg Val Ser Leu Glu Met Arg Trp Val Ser Gly
785 790 795 800
Leu Ala His Val Tyr Glu Ala Ile Gln Ala Thr Glu Gln Arg Asn Ala
805 810 815
Leu Leu Ile Ser His Ile Glu Lys Arg Phe Phe Gln Thr Arg Pro Arg
820 825 830
Gln Glu Tyr Ile Gly Lys Met Leu Thr Phe Thr Ser Ser Leu Cys Arg
835 840 845
Glu Leu Leu Ala Asp Ala Ser Trp
850 855

<210>657
<211>125
<212>PRT
<213>Chlamydia trachomatis
<400>657
Met Ala Leu Lys Asp Thr Ala Lys Lys Met Thr Asp Leu Leu Glu Ser
1 5 10 15
Ile Gln Gln Asn Leu Leu Lys Ala Glu Lys Gly Asn Lys Ala Ala Ala
20 25 30

```
Gln Arg Val Arg Thr Glu Ser Ile Lys Leu Glu Lys Thr Ala Lys Val
          35                  40                  45
Tyr Arg Lys Glu Ser Ile Lys Ala Glu Lys Met Gly Leu Met Lys Lys
      50                  55                  60
Ser Lys Ala Ala Ala Lys Lys Ala Lys Ala Ala Ala Lys Lys Pro Val
 65                  70                  75                  80
Arg Ala Thr Lys Thr Val Ala Lys Lys Ala Cys Thr Lys Arg Thr Cys
                 85                  90                  95
Ala Thr Lys Ala Lys Val Lys Pro Thr Lys Lys Ala Ala Pro Lys Thr
            100                 105                 110
Lys Val Lys Thr Ala Lys Lys Thr Arg Ser Thr Lys Lys
        115                 120                 125
<210>658
<211>435
<212>PRT
<213>Chlamydia trachomatis
<400>658
Ser Leu Leu Phe Phe Leu Leu Ser Phe Pro Phe Ser Gln Arg Gln Val
  1                 5                  10                  15
Leu Ala Asn Lys Ser Thr Thr Ser His Leu Leu Trp Arg Lys Asn Leu
            20                  25                  30
Ser Leu Ser Leu Gly Phe Lys Leu Leu Ser Cys Tyr Arg Asn Cys Lys
          35                  40                  45
His Phe Gly Val Cys Gly Gly Cys Ser Ser Pro Gln Met Glu Tyr Ala
      50                  55                  60
Ser Ser Leu Lys Thr Lys Glu Leu Ala Leu His Asn Leu Phe Ala Pro
 65                  70                  75                  80
Leu Ile Pro Ser Gln Asn Ile Leu Pro Val Ile Pro Cys Ser Pro Leu
                 85                  90                  95
Leu Arg Gly Arg Asn Lys Met Glu Phe Ser Phe Tyr Gln Thr Val Asp
            100                 105                 110
Gly Glu Lys Thr Leu Gly Phe Ile Ser Pro Ser Lys Pro Lys Lys Gly
        115                 120                 125
Ile Pro Ile Thr Glu Cys Leu Met Ile Asp Glu Arg Ala Met Asp Ile
    130                 135                 140
Leu Asn Ile Thr Arg Ser Trp Trp Thr Ala His Pro Asp Leu Ser Ala
145                 150                 155                 160
Tyr Tyr Pro Pro Leu Asn Lys Gly Ser Leu Cys Thr Ile Thr Val Arg
                165                 170                 175
Val Gly Asn Ile Ser Asn Asp Phe Met Ile Ile Leu Thr Thr Ser Gly
            180                 185                 190
Arg Glu Glu Phe Ala Val Pro Leu Asn Ile Ile Gln Glu Trp Gln Gln
        195                 200                 205
Ser Leu Leu Asp Ser Gly Leu Pro Ile Thr Ser Ile Phe Trp Glu Glu
    210                 215                 220
Lys Leu Ser Ala Arg Asn Ser Pro Thr Thr Phe Arg Thr Thr His Leu
225                 230                 235                 240
Tyr Gly Ala Pro Phe Leu Lys Gln Gln Leu Ser Ile Asp Gly Arg Ser
                245                 250                 255
Ser Leu Phe His Ile Arg Pro Arg Ser Phe Phe Gln Pro Gln Ser Leu
            260                 265                 270
Gln Ala Glu Lys Ile Ile Gln Thr Ile Lys Glu Phe Ile Asp Pro Cys
        275                 280                 285
Gly Glu Glu Thr Leu Leu Asp Leu Tyr Cys Gly Ala Gly Thr Ile Gly
    290                 295                 300
Ile Leu Leu Ala Pro Tyr Val Lys Lys Ile Ile Gly Val Glu Leu Val
305                 310                 315                 320
Pro Asp Ala Val Ala Ser Ala Gln Glu Asn Ile Gln Leu Asn Ser Val
                325                 330                 335
Asp Met Glu Val Phe Leu Glu Asp Ala Lys Gln Phe Cys Lys Arg Asn
            340                 345                 350
```

```
Glu Asn Leu Pro Ser Pro Asp Ile Val Val Ile Asp Pro Pro Arg Cys
        355                 360                 365
Gly Met Gln Asn Lys Ala Leu Lys Tyr Leu Leu Arg Met Ala Pro Lys
    370                 375                 380
Lys Ile Val Tyr Val Ser Cys Asn Pro Leu Thr Gln Ile Gln Glu Cys
385                 390                 395                 400
Ser Val Leu Val Glu Gln Gly Tyr Gln Leu Arg His Met Gln Pro Ile
                405                 410                 415
Asp Gln Phe Pro His Thr Asn His Leu Glu Asn Ile Val Leu Leu Glu
            420                 425                 430
Arg Leu Ser
        435
<210>659
<211>162
<212>PRT
<213>Chlamydia trachomatis
<400>659
Ser Phe Gly Lys Tyr Cys Ala Leu Arg Lys Ala Phe Leu Lys Gln Glu
  1               5                  10                  15
Ser Leu Ile Pro Asn Ala Val Pro Ser Gly Lys Gly Leu Ile Pro Leu
            20                  25                  30
Ser Ser Cys Val Asn Leu Ser Phe Leu Thr Leu Ile Lys Gly Thr Ser
        35                  40                  45
Met Tyr Ser Arg Leu Phe Phe Ser Ile Leu Xaa Phe Leu Gly Cys Cys
    50                  55                  60
Pro Ala Leu Phe Ala Asp Thr Asp Ser Pro Gln Arg Ala Thr Phe Gly
65                  70                  75                  80
Gln Pro Ala Val Met Leu Gly Ile Ala Ile Val Phe Phe Tyr Phe Ile
                85                  90                  95
Leu Trp Arg Pro Glu Gln Xaa Arg Arg Gln Ala Met Glu Lys Arg Lys
            100                 105                 110
Ser Glu Leu Ala Val Gly Asp Lys Val Thr Ala Met Gly Ile Val Gly
        115                 120                 125
Thr Ile Ala Glu Ile Arg Glu Xaa Thr Val Ile Leu Asn Ile Ala Ser
    130                 135                 140
Gly Lys Ile Glu Ile Leu Lys Thr Ala Ile Ser Glu Ile Leu Lys Ala
145                 150                 155                 160
Glu Lys

<210>660
<211>131
<212>PRT
<213>Chlamydia trachomatis
<400>660
Ile Ser Gly Ile Ala Ile Pro Ser Pro Cys Gly Gly Lys Ala Ala Cys
  1               5                  10                  15
Lys Gln Cys Lys Val Arg Ile Thr Lys Asn Ala Asp Glu Pro Leu Glu
            20                  25                  30
Thr Asp Arg Ser Thr Phe Ser Lys Gln Gln Leu Glu Gln Gly Trp Arg
        35                  40                  45
Leu Ser Cys Gln Thr Lys Val Gln His Asp Leu Cys Leu Glu Val Glu
    50                  55                  60
Asp Arg Tyr Phe Asn Ala Ser Ser Trp Glu Gly Thr Val Val Ser Asn
65                  70                  75                  80
Glu Asn Val Ala Thr Phe Ile Lys Glu Leu Val Leu Ser Val Asp Pro
                85                  90                  95
Ser Arg Pro Ile Pro Phe Lys Pro Gly Gly Tyr Leu Gln Ile Thr Val
            100                 105                 110
Pro Pro Tyr Lys Thr Asn Thr Phe Gly Leu Glu Ala Asp Tyr Gly Ser
        115                 120                 125
Pro Ile Leu
```

130
<210>661
<211>265
<212>PRT
<213>Chlamydia trachomatis
<400>661
Ile Leu Arg Ala Leu Phe Leu Leu Asn Leu Glu Ala Ile Tyr Lys Leu
1 5 10 15
Pro Phe Leu Leu Ile Lys Pro Ile Leu Ser Asp Trp Lys Gln Thr Met
20 25 30
Asp Pro Gln Tyr Tyr Ser Asp Trp Glu Thr Phe His Leu Phe Asp Gln
35 40 45
Val Ile Asp Asn Leu Ser Leu Asp Thr Asp Ser Ala Asn Lys Ala Tyr
50 55 60
Ser Leu Ala Ser Tyr Pro Ala Glu Leu Pro Leu Ile Lys Phe Asn Val
65 70 75 80
Arg Ile Ala Thr Pro Ser Phe Val Asp Gln Ala Pro Asp Pro Thr Ile
85 90 95
Pro Trp Gly Val Cys Ser Ser Tyr Ile Phe Ser Leu Lys Pro Gly Asp
100 105 110
Lys Val Met Val Ser Gly Pro Tyr Gly Glu Ser Phe Met Lys Glu Asn
115 120 125
Asn Arg Pro Val Ile Phe Leu Ile Gly Gly Ala Gly Ser Ser Phe Gly
130 135 140
Arg Ser His Ile Leu Asp Leu Leu Leu Asn Lys His Ser Asp Arg Glu
145 150 155 160
Leu Thr Leu Trp Tyr Gly Ala Arg Ser Leu Lys Glu Asn Ile Tyr Gln
165 170 175
Glu Glu Tyr Glu Lys Leu Glu Lys Glu Phe Pro Asn Phe His Tyr His
180 185 190
Leu Val Leu Ser Gln Pro Leu Gln Glu Asp Leu Asp Gln Gly Trp Asp
195 200 205
Lys Asn Asp Pro Ile Lys Thr Asn Phe Leu Phe Lys Ala Phe Glu Leu
210 215 220
Gly Gln Leu Ser His Leu Pro Asn Pro Glu Asp Tyr Leu Tyr Tyr Val
225 230 235 240
Cys Gly Pro Ala Leu His Asn Ser Ser Ile Leu Thr Val Leu Asp Asn
245 250 255
Tyr Gly Val Ser Ala Leu Leu Leu Phe
260 265
<210>662
<211>656
<212>PRT
<213>Chlamydia trachomatis
<400>662
Met Gly Lys Glu Arg Lys Lys Ala Ser Val Ser Leu Phe Ser Thr Lys
1 5 10 15
Gln Ser Leu Leu Leu Lys His Ala Cys Tyr Leu Ala Leu Ala Cys Phe
20 25 30
Ser Gly Leu Ser Leu Trp Ser Phe Gln His Asn Gln Pro Tyr Thr Gln
35 40 45
Asn Trp Ile Gly Leu Leu Gly Trp Ser Leu Ser Ser Phe Leu Leu Tyr
50 55 60
Asn Phe Gly Val Ala Ala Phe Leu Ile Pro Leu Asn Phe Gly Trp Leu
65 70 75 80
Ser Phe Leu Asn Met Lys Arg Thr Pro Ala Pro Leu Ala Phe Arg Lys
85 90 95
Ala Ala Ala Phe Gly Ala Ile Pro Val Cys Cys Ala Val Leu Leu Ser
100 105 110
Met Ile Ser Pro Ala Gln Asn Leu Pro Gln Phe Leu Ala Thr Arg Val
115 120 125

```
Pro Met Val Val Met Asp Leu Gln Pro Pro Lys Ala Tyr Leu Gly Gly
    130                 135                 140
Ile Pro Phe Tyr Leu Leu Tyr Asp Gly Asn Ser Phe Ser Leu Lys Leu
145                 150                 155                 160
Leu Ile Gly Ala Val Gly Thr Gly Leu Ile Phe Leu Ala Ile Leu Leu
                165                 170                 175
Cys Ala Ile Phe Tyr Leu Ile Pro Lys Ser Phe Val Leu Lys Lys Lys
            180                 185                 190
Ala Leu Leu Asp Asp Leu Leu Lys Phe Leu Lys Asn Lys Phe Tyr Ala
        195                 200                 205
Cys Trp Asn Ala Cys Lys Lys Leu Leu Lys Asn Leu Val Asn Asn Lys
    210                 215                 220
Ser Tyr Val Pro Glu Pro Ser Leu Arg Val Pro Ser Ser Pro Ser Val
225                 230                 235                 240
Ala Lys Lys Glu Met Leu Lys Leu Pro Thr Pro Val Ile Ser Leu Pro
                245                 250                 255
Leu Glu Asn Lys Asp Leu His Asp Asp Ser Ser Val Asn Arg Thr Ile
            260                 265                 270
Phe Leu Thr Pro Pro His Pro Thr Lys Arg Thr Leu Ser Pro Gln Lys
        275                 280                 285
Arg Thr Asp Leu Pro Asn Leu Leu Pro Lys Asp Ser Ala Ser Ala Pro
    290                 295                 300
Ala Gln Thr Ser Tyr Lys Pro Leu Pro Thr Pro Ser Pro Phe Val Leu
305                 310                 315                 320
Ala Gly Asp Ala Pro Asp Leu Pro Gln Tyr His Leu Leu Ser Lys Arg
                325                 330                 335
Asn Val Arg Arg Pro Glu Ser Leu Leu Glu Glu Leu Lys Lys Lys Ala
            340                 345                 350
Ala Ile Leu Gln Gln Thr Leu Ala Ser Phe Gly Ile Glu Ala Ala Ile
        355                 360                 365
Gly Asn Ile Cys Ser Gly Pro Thr Leu Ala Ala Phe Glu Val Leu Pro
    370                 375                 380
Asn Thr Gly Val Lys Val Gln Lys Ile Lys Ala Leu Glu Asn Asp Ile
385                 390                 395                 400
Ala Leu Asn Leu Gln Ala Ser Ser Ile Arg Ile Ile Ala Pro Ile Pro
                405                 410                 415
Gly Lys Ala Ala Val Gly Ile Glu Ile Pro Asn Pro Asp Pro Gln Pro
            420                 425                 430
Val Asn Phe Arg Asp Leu Leu Glu Asp Tyr Gln Lys Gly Thr Gln Arg
        435                 440                 445
Leu Gln Val Pro Leu Leu Leu Gly Arg Lys Ala Asn Gly Asp Asn Phe
    450                 455                 460
Trp Thr Asp Leu Ala Thr Met Pro His Leu Ile Ile Ala Gly Thr Thr
465                 470                 475                 480
Gly Ser Gly Lys Ser Val Cys Ile Asn Thr Ile Val Met Ser Leu Ile
                485                 490                 495
Met Thr Ser Pro Pro Thr Asp Ile Lys Leu Val Ile Val Asp Pro Lys
            500                 505                 510
Lys Val Glu Leu Thr Gly Tyr Ser Gln Leu Pro His Met Leu Thr Pro
        515                 520                 525
Val Ile Thr Glu Ser Lys Glu Ala His Ser Ala Leu Ile Trp Leu Val
    530                 535                 540
Arg Glu Met Glu Leu Arg Tyr Glu Ile Leu Arg Phe Leu Gly Leu Arg
545                 550                 555                 560
Asn Ile Gln Ser Phe Asn Ser Arg Thr Arg Asn Val Asp Ile Glu Ala
                565                 570                 575
Ser Tyr Asp Lys Glu Ile Pro Glu Lys Met Pro Phe Ile Val Gly Ile
            580                 585                 590
Ile Asp Glu Leu Ser Asp Leu Leu Leu Ser Ser Ser His Asp Ile Glu
        595                 600                 605
Thr Pro Ile Val Arg Leu Ala Gln Met Ala Arg Ala Val Gly Ile His
```

```
    610                 615                 620
Leu Ile Leu Ala Thr Gln Arg Pro Ser Arg Asp Val Ile Thr Gly Ile
625                 630                 635                 640
Ile Lys Ala Asn Ser Leu Leu Glu Ser Pro Leu Lys Leu Pro Thr Lys
                645                 650                 655
```

<210>663
<211>181
<212>PRT
<213>Chlamydia trachomatis
<400>663

```
Ser Cys Arg Asn Pro Pro Asn Leu Ser Asn Thr Thr Pro Phe Ser Arg
  1               5                  10                  15
Cys Asp His Arg Asn Asn Gln Ser Lys Phe Pro Ser Arg Ile Ala Phe
            20                  25                  30
Lys Val Ala Asn Lys Val Asn Ser Gln Ile Ile Ile Asp Glu Pro Gly
        35                  40                  45
Ala Glu Asn Leu Met Gly Asn Gly Asp Met Leu Val Val Ser Pro Gly
    50                  55                  60
Ser Phe Ala Pro Val Arg Val Gln Gly Ala Tyr Ile Cys Asp Asp Asp
65                  70                  75                  80
Ile Asn Lys Val Ile Lys Asp Leu Cys Ser Arg Phe Pro Cys Lys Tyr
                85                  90                  95
Val Ile Pro Ser Phe Asn Thr Tyr Asp Asp Pro Gly Ser Met Asp Pro
            100                 105                 110
Glu Asp Leu Asp Pro Leu Phe Asn Gln Ala Lys Thr Leu Val Leu Gln
        115                 120                 125
Thr Gly Asn Ala Ser Thr Thr Phe Leu Gln Arg Lys Leu Lys Ile Gly
    130                 135                 140
Tyr Ala Arg Ala Ala Ser Ile Ile Asp Gln Leu Glu Glu Ala Arg Ile
145                 150                 155                 160
Val Gly Pro Ser Glu Gly Ala Lys Pro Arg Gln Ile Leu Val Gln Leu
                165                 170                 175
Ser Asn Gln Asp Asp
            180
```

<210>664
<211>263
<212>PRT
<213>Chlamydia trachomatis
<400>664

```
Ser Met Glu Gly Phe Cys Pro Ile Ala Ser Gly Ser Lys Gly Asn Cys
  1               5                  10                  15
Ala Tyr Leu Gly Thr Arg Ser Cys Lys Leu Leu Ile Asp Leu Gly Ile
            20                  25                  30
Ser Lys Gln Ala Val Thr Glu Ala Leu His Ser Met Gly Ile His Pro
        35                  40                  45
Glu Asp Ile Gln Gly Ile Phe Val Thr His Glu His Ser Asp His Ile
    50                  55                  60
Ala Gly Leu Arg Ser Phe Ile Lys Thr Tyr Arg Thr Pro Ile Ile Cys
65                  70                  75                  80
Asn Ile Glu Thr Ala Arg Ser Leu Arg Gln Leu Leu Asp Leu Cys Pro
                85                  90                  95
Thr Phe Lys Ile Phe Thr Thr Gly His Arg Phe Ser Leu Glu Asp Leu
            100                 105                 110
Arg Val Gln Thr Phe Asn Val Pro His Asp Ala Val Asp Pro Val Gly
        115                 120                 125
Phe Ile Phe Gln Tyr Ser Gly Met Lys Leu Gly Phe Cys Thr Asp Leu
    130                 135                 140
Gly Trp Val Thr Ser Trp Ile Thr His Leu Leu Cys Asp Cys Asp Tyr
145                 150                 155                 160
Leu Leu Ile Glu Ser Asn His Asp Pro Glu Met Val Leu Arg Ser Ser
                165                 170                 175
```

Arg Pro Glu Ser Cys Lys Gln Arg Ile Leu Ser Lys Gln Gly His Ile
180 185 190
Ser Asn Ala Glu Cys Gly Ala Leu Leu Gln Arg Val Leu Thr Pro Arg
195 200 205
Ile Lys Lys Ile Tyr Leu Ala His Leu Ser Leu Glu Cys Asn Thr Ala
210 215 220
Glu Gln Ala Leu Asn Thr Val Thr Ser Ala Ile Gln Glu Ile Thr Asp
225 230 235 240
Val His Pro Val Ile Ala Gln Ser Ser Gly Ile Thr Asp Pro Ile Phe
245 250 255
Phe Ser Ala Pro Ser Leu Val
260

<210>665
<211>260
<212>PRT
<213>Chlamydia trachomatis
<400>665
Tyr Gly Arg Ala Ser Phe Glu Tyr Ser Asp Val Cys His Ser Arg Asp
1 5 10 15
His Arg Cys Ser Ser Arg Asn Cys Ser Lys Phe Trp His Tyr Arg Ser
20 25 30
Tyr Phe Leu Phe Cys Ser Glu Pro Cys Met Thr Thr Asn Ser Thr Gln
35 40 45
Asp Thr Leu Tyr Leu Ser Leu His Gly Gly Ile Asp Ser Ala Ile Pro
50 55 60
Tyr Pro Val Arg Arg Val Glu Gln Leu Leu Gln Phe Ser Phe Leu Pro
65 70 75 80
Glu Leu Gln Phe Gln Asn Ala Ala Val Lys Gln Arg Ile Gln Arg Leu
85 90 95
Cys Tyr Arg Glu Glu Lys Arg Leu Ala Val Ser Ser Leu Ala Lys Trp
100 105 110
Leu Gly Gln Leu His Lys Gln His Leu Arg Ala Pro Lys Asn Pro Pro
115 120 125
Val Ala Ile Cys Trp Ile Asn Ser Tyr Val Gly Tyr Gly Val Phe Ala
130 135 140
Arg Glu Ser Ile Pro Ala Trp Ser Tyr Ile Gly Glu Tyr Thr Gly Ile
145 150 155 160
Leu Arg Arg Arg Gln Ala Leu Trp Leu Asp Glu Asn Asp Tyr Cys Phe
165 170 175
Arg Tyr Pro Val Pro Arg Tyr Ser Phe Arg Tyr Phe Thr Ile Asp Ser
180 185 190
Gly Met Gln Gly Asn Val Thr Arg Phe Ile Asn His Ser Asp Asn Pro
195 200 205
Asn Leu Glu Ala Ile Gly Ala Phe Glu Asn Gly Ile Phe His Ile Ile
210 215 220
Ile Arg Ala Ile Lys Asp Ile Leu Pro Gly Glu Glu Leu Cys Tyr His
225 230 235 240
Tyr Gly Pro Leu Tyr Trp Lys His Arg Lys Lys Arg Glu Glu Phe Val
245 250 255
Pro Gln Glu Glu
260

<210>666
<211>156
<212>PRT
<213>Chlamydia trachomatis
<400>666
Ile Gln Glu Thr Ser Ile Met Gln Leu Thr Ser Gln Ala Phe Ser Tyr
1 5 10 15
Gly Arg Pro Ile Pro Lys Lys Tyr Ser Cys Gln Gly Val Gly Ile Ser
20 25 30
Pro Pro Leu Ser Phe Ser Asp Val Pro Arg Glu Ala Lys Ser Leu Val

```
          35                  40                  45
Leu Ile Val Glu Asp Pro Asp Val Pro Pro Ser Val Arg Glu Asp Gly
     50                  55                  60
Leu Trp Ile His Trp Ile Val Tyr Asn Leu Ser Pro Val Val Ser Asn
 65                  70                  75                  80
Leu Ala Glu Gly Ala Gln Ile Phe Ala Val Gln Gly Leu Asn Thr Ala
                 85                  90                  95
Gly Glu Ile Gly Tyr Cys Pro Pro Cys Pro Pro Asp Ala Lys His Arg
            100                 105                 110
Tyr Tyr Phe Tyr Ala Tyr Ala Leu Asp Val Val Leu Ser Asp Glu Glu
        115                 120                 125
Gly Val Thr Lys Glu Gln Leu Leu Glu Ala Met Asp Gly His Ile Ile
    130                 135                 140
Ala Thr Ala Glu Leu Met Gly Thr Tyr Glu Lys Asp
145                 150                 155
<210>667
<211>455
<212>PRT
<213>Chlamydia trachomatis
<400>667
Met Leu Gln Phe Leu Lys Gln Ile Asn His Phe Leu Thr Ser Phe Cys
  1               5                  10                  15
Val Phe Pro Leu Ile Leu Cys Leu Gly Gly Ile Leu Thr Trp Lys Leu
            20                  25                  30
Arg Gly Leu Gln Phe Thr Ser Leu Gly Met Ser Phe Arg Leu Met Leu
        35                  40                  45
Asn Asn Gln Gln Glu Gln Ala Gly Ala Glu Gly Glu Gly Val Ser Arg
    50                  55                  60
Tyr Glu Ala Val Ala Gly Met Leu Ala Gly Asn Phe Gly Thr Gly Asn
 65                  70                  75                  80
Ile Ala Gly Met Ala Ile Ala Val Ala Ser Gly Gly Pro Gly Ala Leu
                 85                  90                  95
Leu Trp Ile Trp Ile Val Thr Leu Phe Ala Ala Ile Val Gln Tyr Ala
            100                 105                 110
Gly Ala Phe Leu Gly Cys Lys Tyr Arg Gln Phe Gln Lys Glu Ser Gln
        115                 120                 125
Glu Tyr Ile Gly Gly Pro Ile Ala Cys Leu Gly Tyr Lys Met Gly Ser
    130                 135                 140
Arg Phe Xaa Ala Val Ala Xaa Cys Val Ala Ser Leu Ile Thr Ala Phe
145                 150                 155                 160
Ser Ala Gly Ser Leu Val Gln Val Asn Ser Ile Ile Ser Leu Cys Ala
                165                 170                 175
Asp Gly Val Ser Ala Lys Ile Ala Val Gly Ile Leu Leu Ala Leu Ser
            180                 185                 190
Val Tyr Pro Ile Leu Ala Gly Gly Asn Thr Arg Val Leu Arg Phe Ser
        195                 200                 205
Ala Lys Ala Ile Pro Phe Val Ala Gly Phe Tyr Phe Leu Phe Ser Val
    210                 215                 220
Ile Val Leu Ala Met His Cys Asp Lys Ile Leu Pro Ala Leu Gln Leu
225                 230                 235                 240
Val Phe Ser Ser Ala Leu Gly Val Lys Ala Gly Ile Ala Gly Val Gly
                245                 250                 255
Gly Tyr Thr Leu Gly Gln Val Ile Ser Thr Gly Leu Asn Arg Ala Ile
            260                 265                 270
Met Ala Thr Asp Gly Gly Ser Gly Met Val Ser Ile Leu Gln Ser Asn
        275                 280                 285
Ser Lys Ser Thr Asn Pro Val Thr Asp Gly Leu Val Thr Leu Leu Pro
    290                 295                 300
Pro Val Ile Val Ala Val Val Cys Ser Ile Thr Met Met Val Leu Leu
305                 310                 315                 320
Val Thr Gly Ala Tyr Asp Ser Gly Glu Leu Gly Val Leu Met Val Met
```

```
                325                 330                 335
Asn Ala Phe Lys Ser Ser Leu Gly Met Leu Gly Gly Ser Val Val Leu
            340                 345                 350
Ile Ser Met Ile Leu Phe Gly Tyr Thr Thr Ala Leu Ser Trp Phe Ala
        355                 360                 365
Cys Ala Glu Lys Ser Leu Glu Tyr Met Ile Pro Gly Lys Arg Ala Asn
    370                 375                 380
Leu Leu Leu Lys Ala Ile Tyr Ile Ala Ile Ile Pro Met Gly Gly Val
385                 390                 395                 400
Leu Gly Met Gln Phe Ile Trp Ala Leu Ser Asp Leu Gly Phe Cys Gly
                405                 410                 415
Met Val Ile Phe Asn Ser Ile Ser Leu Ile Ala Leu Phe Arg Glu Val
            420                 425                 430
Ile Ala Thr Arg Tyr Glu Val Ala Leu Leu Arg Lys Glu Ala Gln Ala
        435                 440                 445
Gln Ser Asp Pro Leu Arg Gln
    450                 455
<210>668
<211>119
<212>PRT
<213>Chlamydia trachomatis
<400>668
Cys Leu Leu Leu Leu Ile Ser Leu Leu Leu Leu Trp Leu Trp Leu Arg
  1                 5                  10                  15
Gly Lys Leu Lys Ala His Tyr Arg Val Leu Glu Arg Ser Ile Leu Leu
             20                  25                  30
His Leu Leu Gln Ala Leu Ala Glu Asp Pro Ala Leu Ile Ala Gly Met
         35                  40                  45
Lys Lys Met Gln Gly Arg Asp Trp Val Trp Asn Ile Phe Ile Thr Glu
     50                  55                  60
Leu Ser Lys Val Phe Ser Gln Ala Ala Ser Leu Gly Leu Ser Ala Leu
 65                  70                  75                  80
Gln Thr Phe Ala Ala Phe Ala Ser Thr Leu Gly Leu Asp Ser Gly Thr
                 85                  90                  95
Val Thr Ser Ile Val Asp Gly Glu Arg Trp Ala Glu Leu Ile Asp Val
            100                 105                 110
Val Ile Gln Asn Pro Ala Ile
        115
<210>669
<211>214
<212>PRT
<213>Chlamydia trachomatis
<400>669
Tyr Tyr Lys Phe Ile Phe Asn Phe Gly Arg Phe Met Lys Lys Phe Ile
  1                 5                  10                  15
Tyr Lys Tyr Ser Phe Gly Ala Leu Leu Leu Leu Ser Gly Leu Ser Gly
             20                  25                  30
Leu Ser Ser Cys Cys Ala Asn Ser Tyr Gly Ser Thr Leu Ala Lys Asn
         35                  40                  45
Thr Ala Glu Ile Lys Glu Glu Ser Val Ile Leu Arg Glu Lys Pro Asp
     50                  55                  60
Ala Gly Cys Lys Lys Lys Ser Ser Cys Tyr Leu Arg Lys Phe Phe Ser
 65                  70                  75                  80
Arg Lys Lys Pro Lys Glu Lys Thr Glu Pro Val Leu Pro Asn Phe Lys
                 85                  90                  95
Ser Tyr Ala Asp Pro Met Thr Asp Ser Glu Arg Lys Asp Leu Ser Phe
            100                 105                 110
Val Val Ser Ala Ala Ala Asp Lys Ser Ser Ile Ala Leu Ala Met Ala
        115                 120                 125
Gln Gly Glu Ile Lys Gly Ala Leu Ser Arg Ile Arg Glu Ile His Pro
    130                 135                 140
```

Leu Ala Phe Val Thr Ser Ser Cys Arg Arg Ser Cys Phe Asn Cys Trp
145 150 155 160
Asn Glu Lys Asp Ala Arg Thr Gly Leu Gly Leu Glu Tyr Leu Tyr His
165 170 175
Arg Ile Lys Gln Ser Phe Phe Ser Ser Ser Ile Phe Arg Ala Phe Ser
180 185 190
Val Ala Asp Val Cys Arg Val Arg Val Asp Leu Arg Ile Arg Leu Gly
195 200 205
Asp Arg Tyr Leu Asn Cys
210

<210>670
<211>429
<212>PRT
<213>Chlamydia trachomatis
<400>670
Cys Pro Cys Phe Leu Ser Thr Ser Thr Ser Arg Asn Val Pro Ser Ser
1 5 10 15
Thr Thr Lys Ile Gly Ser Glu Val Trp Ile Glu Gln Lys Val Arg Gln
20 25 30
Tyr Pro Glu Leu Leu Trp Leu Val Glu Pro Ser Ser Thr Gly Ala Ser
35 40 45
Leu Lys Ser Pro Ser Gly Ala Ile Phe Ser Pro Thr Leu Phe Gln Lys
50 55 60
Lys Val Pro Ala Phe Asp Ile Ala Val Arg Ser Leu Ile His Leu His
65 70 75 80
Leu Leu Ile Gln Gly Ser Arg Gln Ala Tyr Ala Gln Leu Ile Gln Leu
85 90 95
Gln Thr Ser Glu Ser Pro Leu Thr Phe Lys Gln Phe Leu Ala Leu His
100 105 110
Lys Gln Leu Thr Leu Phe Leu Asn Ser Pro Lys Glu Phe Tyr Asp Ser
115 120 125
Val Lys Val Leu Glu Thr Ala Ile Val Leu Arg His Leu Gly Cys Ser
130 135 140
Thr Lys Ala Val Ala Ala Phe Lys Pro Tyr Phe Ser Glu Met Gln Arg
145 150 155 160
Glu Thr Phe Tyr Thr Lys Ala Leu His Val Leu His Thr Phe Pro Glu
165 170 175
Leu Ser Pro Ser Phe Ala Arg Leu Ser Pro Glu Gln Lys Thr Leu Phe
180 185 190
Phe Ser Leu Arg Lys Leu Ala Asn Tyr Asp Glu Leu Leu Ser Leu Thr
195 200 205
Asn Thr Pro Ser Phe Gln Leu Leu Ser Ala Gly Arg Ser Gln Arg Ala
210 215 220
Leu Leu Ala Leu Asp Leu Tyr Leu Tyr Ala Leu Asp Ser Cys Gly Glu
225 230 235 240
Gln Gly Met Ser Ser Gln Phe His Thr Asn Phe Ala Pro Leu Gln Ser
245 250 255
Met Leu Gln Gln Tyr Ala Thr Val Glu Glu Ala Phe Ser Arg Tyr Phe
260 265 270
Thr Tyr Arg Ala Asn Arg Leu Gly Phe Asp Gly Ser Ser Arg Ser Glu
275 280 285
Met Ala Leu Val Arg Met Ala Thr Leu Met Asn Leu Ser Pro Ser Glu
290 295 300
Ala Ala Ile Leu Thr Thr Ser Phe Lys Thr Leu Pro Thr Glu Glu Ala
305 310 315 320
Asp Thr Leu Val Asn Ser Phe Tyr Thr Asn Lys Gly Asp Ser Leu Ala
325 330 335
Leu Ser Leu Arg Gly Leu Pro Thr Leu Val Ser Glu Leu Thr Arg Thr
340 345 350
Ala Arg Gly Asn Thr Asn Ala Glu Ala Arg Ser Gln Gln Ile Tyr Ala
355 360 365

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```
Thr Thr Leu Ser Leu Val Ala Lys Ser Leu Lys Ala His Lys Glu Met
    370                 375                 380
Leu Asn Lys Gln Ile Leu Ser Lys Glu Ile Val Leu Asp Phe Ser Glu
385                 390                 395                 400
Thr Ala Ala Ser Cys Gln Gly Leu Asp Ile Phe Ser Glu Asn Val Ala
                405                 410                 415
Val Gln Ile His Leu Asn Gly Thr Val Ser Ile His Leu
            420                 425
```

<210>671
<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>671

```
Ser Lys Lys Thr Pro Asp Leu Ile Arg Arg Ser Ser Phe Ser Thr Pro
  1               5                  10                  15
Phe Tyr Ser Phe Pro Ile Arg Glu Asn Asn Asp Ala Ile Ser Lys Ala
             20                  25                  30
Val Phe Met Pro Glu Ala Pro Lys Leu Gly Pro Leu Ile Pro Ala Arg
         35                  40                  45
Ser Gln Ala Ala Ser Ile Leu Gly Ala Val Ile Thr Glu Asn Val Ile
     50                  55                  60
Gly Arg Gln Lys Ser Lys Asp Arg Arg Leu Thr Pro Ala Ala Thr Leu
 65                  70                  75                  80
Ser Ala Ile Cys Ser
                85
```

<210>672
<211>99
<212>PRT
<213>Chlamydia trachomatis
<400>672

```
Ile Pro Cys Ala Ile Lys Lys Leu Leu Ser Thr Ser Gly Gln Phe His
  1               5                  10                  15
Ala Val Val Ala Cys Gly Val Leu Ile Gln Gly Glu Thr Ser His Tyr
             20                  25                  30
Glu His Ile Ala Asp Ser Val Ala Ala Gly Val Ser Arg Leu Ser Leu
         35                  40                  45
Asp Phe Cys Leu Pro Ile Thr Phe Ser Val Ile Thr Ala Pro Asn Met
     50                  55                  60
Glu Ala Ala Trp Glu Arg Ala Gly Ile Lys Gly Pro Asn Leu Gly Ala
 65                  70                  75                  80
Ser Gly Met Lys Thr Ala Leu Glu Met Ala Ser Leu Phe Ser Leu Ile
                85                  90                  95
Gly Lys Glu
```

<210>673
<211>306
<212>PRT
<213>Chlamydia trachomatis
<400>673

```
Ser Gly Ser Asp Ser Glu Ser Phe Val Arg Pro Gly His Val Phe Pro
  1               5                  10                  15
Leu Ile Ser Gln Pro Gly Gly Val Val Gln Arg Pro Gly His Thr Glu
             20                  25                  30
Ala Ala Met Asp Leu Met Arg Leu Ala Gly Met Gln Pro Cys Gly Ile
         35                  40                  45
Phe Ala Glu Leu Val Asn Pro Asp His Ser Met Met Arg Gln Gln Gln
     50                  55                  60
Val Leu Ala Phe Ala Glu Gln His Asp Leu Thr Val Ile Thr Val Asp
 65                  70                  75                  80
Asp Leu Ile Thr Tyr Arg Tyr Thr Tyr Asp Ser Leu Val Thr Lys Ile
                85                  90                  95
```

```
Ser Ser Ala Arg Leu Pro Thr Lys Tyr Gly Asp Phe Ser Ile Tyr Val
            100                 105                 110
Tyr Glu Ser Ile Ile Asp Gly Thr Gln His Phe Ala Leu Val Lys Gly
        115                 120                 125
Asp Ile His Glu Gln Glu Ala Val Pro Val Arg Val His Ser Glu Cys
    130                 135                 140
Leu Thr Gly Asp Ile Leu Gly Ser Cys Arg Cys Asp Cys Gly Ala Gln
145                 150                 155                 160
Leu Asp Met Ala Met Arg Tyr Ile Ala Glu Glu Gly Leu Gly Val Ile
                165                 170                 175
Val Tyr Leu Arg Gly Gln Glu Gly Arg Gly Ile Gly Phe Gly His Lys
            180                 185                 190
Ile Arg Ala Tyr Ala Leu Gln Asp Leu Gly Tyr Asp Thr Val Asp Ala
        195                 200                 205
Asn Leu Gln Leu Gly Phe Pro Ile Asp Ala Arg Glu Tyr Gly Met Ala
    210                 215                 220
Ala Gln Val Leu Lys Asp Leu Gln Leu Thr Ser Val Arg Leu Ile Thr
225                 230                 235                 240
His Asn Pro Arg Lys Phe Phe Glu Leu Gln Arg Leu Gly Ile His Val
                245                 250                 255
Leu Asp Arg Ile Ile Leu Pro Val Ser Ile Ser Thr Glu Asn Glu Gly
            260                 265                 270
Tyr Leu Arg Thr Lys Lys Glu Arg Met Gly His Trp Leu Asp Leu Pro
        275                 280                 285
Val Leu Asp Asp Val Glu Glu Glu Tyr Glu Thr Val Glu Arg Met Ser
    290                 295                 300
Cys Arg
305
<210>674
<211>136
<212>PRT
<213>Chlamydia trachomatis
<400>674
Leu Arg Met Phe Thr Tyr Glu Ala Gly Ile Ala Ser Val Gln Gln Ala
  1                 5                  10                  15
Ile Lys Asp Val Ala Glu Gly Lys Phe Val Ile Val Ile Asp Ala Ala
             20                  25                  30
Ser Arg Glu Asn Glu Gly Asp Leu Ile Leu Ala Gly Glu Lys Val Ser
         35                  40                  45
Thr Glu Lys Met Ser Phe Leu Leu Ser His Thr Thr Gly Ile Val Cys
     50                  55                  60
Ala Ser Leu Ser Arg Glu Gln Ala Lys Ser Leu Asp Leu Pro Ala Met
 65                  70                  75                  80
Val Gln Asp Asn Gln Cys Ala Phe Lys Thr Ala Phe Thr Val Ser Val
                 85                  90                  95
Asp Ala Ser Ser Gly Val Thr Thr Gly Val Ser Ala Ser Asp Arg Thr
            100                 105                 110
Arg Thr Val Gln Leu Leu Ala Asp Pro Ala Ala Thr Ala Ser Pro Leu
        115                 120                 125
Phe Asp Gln Gly Met Phe Ser Leu
    130                 135
<210>675
<211>261
<212>PRT
<213>Chlamydia trachomatis
<400>675
Lys Arg Arg Thr Arg Leu Gln Ala Ala Gly Ile Pro Val Tyr Val Gly
  1                 5                  10                  15
Val Gly Ser Gln Glu Ala Lys Thr Ser Leu Gln Pro Tyr Leu Tyr Gln
             20                  25                  30
Arg Glu Arg Gly Leu Pro Trp Val Val Met Lys Thr Ala Ala Ser Leu
```

```
          35                  40                  45
Asp Gly Gln Thr Ala Asp Arg Gly Gly Ser Ser Gln Trp Ile Ser Gly
      50                  55                  60
Glu Leu Ala Arg Ala Asp Val Gly Lys Leu Arg Ala Glu Ser Gln Ala
 65                  70                  75                  80
Ile Ile Val Gly Ala Arg Thr Val Cys Leu Asp Asn Pro Arg Leu Ser
                 85                  90                  95
Ala Arg Phe Pro His Gly Asp Leu Tyr Glu Arg Gln Pro Leu Arg Val
            100                 105                 110
Val Val Asp Ser Arg Gly Thr Val Pro Leu Glu Ser Arg Val Phe Asp
        115                 120                 125
Leu Ser Ser Gly Ser Thr Leu Phe Ala Thr Thr Gln Gln Cys Pro Lys
    130                 135                 140
Glu Tyr Ile Gln Lys Leu Lys Asp Leu Gly Val Glu Val Trp Glu Ser
145                 150                 155                 160
Ser Ser His Gln Val Asp Leu Lys Gly Leu Leu Arg Tyr Leu Ala Glu
                165                 170                 175
Arg Gly Cys Leu Gln Val Leu Val Glu Gly Gly Ala Gln Leu His Ser
            180                 185                 190
Ala Phe Trp Gln Gln Lys Leu Val Asn Ala Gly Val Ile Tyr Trp Gly
        195                 200                 205
Pro Lys Phe Leu Gly Asp Gln Gly Gln Pro Met Leu Arg Asp Leu Gln
    210                 215                 220
Leu Ser Leu Val Thr Ala Glu His Val Arg Ile Thr Glu Thr Ser Leu
225                 230                 235                 240
Val Arg Asp Ser Val Lys Thr Cys Phe Glu Cys Leu Glu Gln Glu Ser
                245                 250                 255
Val Asp Lys Lys Gly
            260
```

<210>676
<211>170
<212>PRT
<213>Chlamydia trachomatis
<400>676

```
Arg Asn Xaa Xaa Xaa Leu Phe Phe Glu Asp Gly Phe Arg Thr Leu Leu
  1               5                  10                  15
Val Pro Cys Val Leu Ile Val Tyr Pro Thr Ser Leu His Leu Phe Arg
            20                  25                  30
Tyr Leu Ile Phe Gln Val Glu Tyr Met Glu Val Leu Ser Glu Gln Gln
        35                  40                  45
Leu Phe Phe Met Arg Lys Ala Val Ala Leu Gly Glu Lys Gly Arg Ile
    50                  55                  60
Phe Ala Pro Pro Asn Pro Trp Val Gly Cys Val Ile Val Lys Asn Gly
65                  70                  75                  80
Cys Val Ile Gly Glu Gly Trp His Gln Gly Ile Gly Ser Pro His Ala
                85                  90                  95
Glu Val Cys Ala Val Gln Asp Gln Lys Cys Ser Leu Glu Gly Ala Glu
            100                 105                 110
Val Tyr Val Thr Leu Glu Pro Cys Cys His Phe Gly Arg Thr Pro Pro
        115                 120                 125
Cys Val Asp Leu Leu Ile Lys Ser Lys Val Ala Ala Val Tyr Val Gly
    130                 135                 140
Leu Leu Asp Pro Asp Pro Arg Val Cys Lys Lys Gly Val Pro Val Cys
145                 150                 155                 160
Lys Gln Gln Gly Phe Pro Phe Met Leu Gly
                165                 170
```

<210>677
<211>422
<212>PRT
<213>Chlamydia trachomatis
<400>677

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Tyr Ala Arg Asn Gln Lys Ser Ala Lys Ala Val Phe Lys Lys Lys Xaa
 1               5                  10                  15
Pro Xaa Ile Ser Leu Glu Arg Leu Leu Asp Leu Asp Lys Thr Val Arg
            20                  25                  30
Gln Leu Lys Ala Asp Ser Glu Ala Leu Leu Ala Lys Arg Lys Val Leu
        35                  40                  45
Ser Gly Gln Ile His Lys Ala Lys Val Ala Asn Glu Asn Ala Asp Ala
    50                  55                  60
Leu Ile Gln Glu Val Asn Thr Ile Ala Asp Gln Leu Val Ala Phe Glu
65                  70                  75                  80
Thr Thr Leu Gln Glu Gln Glu Ala Leu Leu Glu Asp Leu Met Ala Arg
                85                  90                  95
Leu Pro Asn Tyr Pro Asp Glu Asp Val Pro Val Ser Pro Asp Lys Thr
            100                 105                 110
Gly Asn Gln Met Ile Lys Ser His Gly Glu Val Pro Thr Phe Pro Phe
        115                 120                 125
Pro Pro Lys His His Met Gln Leu Asn Glu Ala Leu Gln Ile Leu Asp
    130                 135                 140
Phe Lys Leu Pro Ala Lys Thr Thr Gly Ser Gly Trp Pro Ala Tyr Cys
145                 150                 155                 160
Asn Glu Gly Val Leu Leu Glu Trp Ala Leu Leu Thr Tyr Leu Leu Asn
                165                 170                 175
Lys Gln Gln Ala His Gly Phe Gln Leu Trp Leu Pro Pro Leu Leu Val
            180                 185                 190
Lys Arg Asp Ile Leu Phe Gly Ser Gly Gln Ile Pro Lys Phe Asp Gly
        195                 200                 205
Gln Tyr Tyr Arg Val Glu Asp Gly Asp Arg Ser Leu Phe Leu Ile Pro
    210                 215                 220
Thr Ala Glu Val Val Leu Asn Gly Phe His Ser Gln Glu Ile Leu Asn
225                 230                 235                 240
Glu Gln Asp Leu Pro Leu Cys Tyr Ala Ala Phe Thr Pro Cys Phe Arg
                245                 250                 255
Arg Glu Ala Gly Ala Gly Gly Ala His Glu Arg Gly Leu Val Arg Val
            260                 265                 270
His Gln Phe His Lys Val Glu Met Phe Ala Phe Thr Thr Pro Glu Gln
        275                 280                 285
Glu Glu Val Val Tyr Gln Lys Met Leu His Val Val Glu Glu Ile Leu
    290                 295                 300
Ser Glu Leu Gln Leu Pro Tyr Gln Leu Ser Leu Leu Ser Thr Gly Asp
305                 310                 315                 320
Met Ser Phe Thr Ala Lys Lys Thr Ile Asp Ala Glu Val Trp Leu Pro
                325                 330                 335
Gly Gln Lys Ala Phe Tyr Glu Val Ser Ser Ile Ser Lys Cys Gly Asp
            340                 345                 350
Phe Gln Ala Arg Arg Ser Glu Thr Arg Tyr Arg Asp Ala Gln Gly Lys
        355                 360                 365
Leu His Phe Val Asn Thr Leu Asn Gly Ser Gly Leu Ala Thr Pro Arg
    370                 375                 380
Leu Leu Val Ala Ile Leu Glu Asn Tyr Gln Gln Ala Asp Gly Ser Val
385                 390                 395                 400
Val Ile Pro Ser Val Leu Arg Pro Tyr Met Asn Asn Gln Glu Ile Leu
                405                 410                 415
Leu Pro Lys Thr Val Arg
            420
<210>678
<211>180
<212>PRT
<213>Chlamydia trachomatis
<400>678
Pro Leu Met Glu Lys Ser Tyr Ser Gln Leu Gly Ser Val Gly Phe Phe
 1               5                  10                  15
```

```
Ile Pro Ala Val Ser Glu Ala Gln Ala Ala Trp Ala Tyr Ile Glu Leu
            20                  25                  30
Thr His Arg Asn Met Leu Gln Glu Lys Lys Glu Ile Glu Thr Asn Pro
        35                  40                  45
Glu Gln Glu Arg Ile Glu Leu Ala Val Leu Tyr Ala Asn Gln Gly Phe
    50                  55                  60
Gln Glu Pro Leu Ile Ser Gln Met Leu Asp Phe Val Cys Ser Asp Ser
65                  70                  75                  80
Ser Leu Leu Leu Ser Thr Met Leu Arg Glu Glu Leu His Ile Gln Leu
                85                  90                  95
Glu Asp Tyr Pro His Pro Leu Lys Gln Gly Asn Val Lys Ala Leu Gly
            100                 105                 110
Gly Ile Leu Gly Leu Leu Leu Phe Ala Pro Ile Thr Leu Ala Val Ser
        115                 120                 125
Tyr Thr Ile Ala Ala Ile Leu Ala Ser Phe Met Ile Gly Val Leu Phe
    130                 135                 140
Ala Val Lys Thr Arg Leu Ile Lys Asn Ala Ile Thr Pro Ala Ile Val
145                 150                 155                 160
Trp Gly Val Gly Met Phe Ile Thr Ala Ile Ser Leu Cys Cys Ser Leu
                165                 170                 175
Ile Arg Leu Phe
            180
```

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<210>679
<211>453
<212>PRT
<213>Chlamydia trachomatis
<400>679

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Pro Leu Leu Leu Phe Asp Pro Ile Ile Leu Val His Thr Leu Ser Arg
  1               5                  10                  15
Trp Pro Met Ser Pro Gln Leu Phe Ser Ser Pro Phe Ser Arg Glu Leu
            20                  25                  30
Leu Ser Asp Phe Phe Glu Ser Gly Met Ala Glu Glu Asn Ser Pro Leu
        35                  40                  45
Leu Ser Gln Lys Asn Arg Arg Leu Ser Gln Asn Leu Thr Leu Lys Ser
    50                  55                  60
Ala Tyr Ile Ser Leu Ala Leu Tyr Leu Gly Ser Leu Leu Ser His Trp
65                  70                  75                  80
Ile Gly Tyr Gln Ala Leu Ser Ser Leu Leu Leu Ile Leu Thr Phe Phe
                85                  90                  95
Leu Ala Gly Thr Pro Ala Leu Ile Lys Ser Phe Glu Asp Ile Leu Asp
            100                 105                 110
Arg Thr Val Asn Ile Asp Ile Leu Met Thr Ser Ala Ala Phe Gly Ser
        115                 120                 125
Ile Phe Ile Gly Gly Ala Leu Glu Gly Ala Leu Leu Leu Val Leu Phe
    130                 135                 140
Ala Ile Ser Glu Ser Leu Gly Ala Met Val Ser Gly Lys Ala Lys Ser
145                 150                 155                 160
Thr Leu Ala Ser Leu Lys His Leu Ala Pro Thr Val Ala Trp Val Val
                165                 170                 175
Gln Gln Asp Gly Ser Leu Gln Lys Val Leu Val Gln Asn Val Lys Ile
            180                 185                 190
Gly Glu Ile Ile Arg Val Lys Ser Gly Glu Val Val Pro Leu Asp Gly
        195                 200                 205
Lys Ile Ile His Gly Ala Ser Ser Ile Asn Leu Met His Leu Thr Gly
    210                 215                 220
Glu Lys Ile Pro Lys Ser Cys Gly Ile Gly Asp Thr Ile Pro Ala Gly
225                 230                 235                 240
Ala His Asn Leu Glu Gly Ser Phe Asp Leu Gln Val Leu Arg Ile Gly
                245                 250                 255
Ala Glu Ser Thr Ile Ala His Ile Ile Asn Leu Val Val Gln Ala Gln
            260                 265                 270
```

Ser Ser Lys Pro Lys Leu Gln Gln Arg Leu Asp Arg Tyr Ser Ser Thr
275 280 285
Tyr Ala Leu Thr Ile Phe Ala Ile Ser Ala Cys Ile Ala Ile Gly Gly
290 295 300
Ser Leu Phe Thr Thr Leu Pro Phe Leu Gly Pro Asp Gly Ala Phe Tyr
305 310 315 320
Arg Ala Leu Ala Phe Leu Ile Ala Ala Ser Pro Cys Ala Leu Ile Ile
325 330 335
Ala Ile Pro Ile Ala Tyr Leu Ser Ala Ile Asn Ala Cys Ala Lys His
340 345 350
Gly Val Leu Leu Lys Gly Gly Val Val Leu Asp Arg Leu Val Ser Cys
355 360 365
Asn Ser Val Val Met Asp Lys Thr Gly Thr Leu Thr Thr Gly Asp Leu
370 375 380
Thr Cys Ser Gly Cys Glu Asp Phe Gly Pro Glu Ser Pro Leu Phe Tyr
385 390 395 400
Ser Cys Val Leu Ala Met Glu Gln Ser Ser Ser His Pro Ile Ala Gln
405 410 415
Ala Ile Val Asn Tyr Leu Thr Glu Lys Gln Val Arg Ser Leu Pro Ala
420 425 430
Thr Gln Cys Thr Thr Ile Pro Gly Glu Gly Val Arg Glu Asn Leu Thr
435 440 445
Glu Asn Lys Pro Leu
450
<210>680
<211>207
<212>PRT
<213>Chlamydia trachomatis
<400>680
Thr Ala Ser Arg Thr Pro Gln Gln Ala Gln Glu Arg Gly Asp Thr Cys
1 5 10 15
Ser Ile Ala Cys Leu Gly Lys Arg Val Ser Leu Phe Tyr Phe Arg Asp
20 25 30
Val Pro Arg His Asp Ala Ala Asn Ile Val Ser Tyr Leu Lys Lys Asn
35 40 45
Gly Tyr Pro Val Cys Met Leu Thr Gly Asp His Arg Ile Ser Ala Glu
50 55 60
Asn Thr Ala Arg Leu Leu Gly Ile Asp Glu Val Phe Tyr Asp Leu Thr
65 70 75 80
Pro Asp Asn Lys Leu Ser Lys Ile Gln Glu Leu Ala Lys Ser Arg Gln
85 90 95
Ile Met Met Ile Gly Asp Gly Ile Asn Asp Ala Pro Ala Leu Ala Gln
100 105 110
Ala Thr Val Gly Ile Ala Met Gly Glu Ala Gly Ser Ala Thr Ala Ile
115 120 125
Glu Ala Ala Asp Val Val Leu Leu Asn Gln Gly Leu Ser Ser Leu Pro
130 135 140
Trp Leu Ile Asp Lys Ala Lys Lys Thr Arg Arg Ile Val Ser Gln Asn
145 150 155 160
Leu Ala Leu Ala Leu Ala Ile Ile Leu Phe Ile Ser Gly Pro Ala Ser
165 170 175
Met Gly Val Ile Pro Leu Trp Leu Ala Val Ile Leu His Glu Gly Gly
180 185 190
Thr Val Ile Val Gly Leu Asn Ala Leu Arg Leu Leu Lys Asn Thr
195 200 205
<210>681
<211>379
<212>PRT
<213>Chlamydia trachomatis
<400>681
Met Lys Lys Thr Lys Tyr Leu Arg Gln Val Asn Leu Trp Val Phe Val

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```
  1               5                  10                  15
Val Ile Ile Leu Leu Met Ser Ile Ser Val Ile Val Ile Ser Ser Gln
            20                  25                  30
Asp Pro Ser Ser Met Leu Val His Thr Ser Arg Gly Leu Phe Ser Ala
        35                  40                  45
Lys Ser Lys Lys Gln Leu Asp His Phe Ala Leu Gly Trp Cys Ala Tyr
    50                  55                  60
Phe Ile Cys Leu Tyr Val Asp Tyr His Gln Phe Lys Arg Trp Ala Trp
65                  70                  75                  80
Val Leu Tyr Ser Leu Ile Leu Phe Ser Leu Ile Gly Leu Phe Phe Val
                85                  90                  95
Pro Ala Val Gln Asn Val His Arg Trp Tyr Arg Ile Pro Ile Ile Asn
            100                 105                 110
Leu Ser Val Gln Pro Ser Glu Tyr Ala Lys Leu Ala Val Val Ile Met
        115                 120                 125
Leu Ser Tyr Ile Leu Glu Met Arg Lys Ala Arg Ile Ser Ser Lys Thr
    130                 135                 140
Thr Ala Phe Val Ala Cys Ile Ile Val Gly Ile Pro Phe Leu Leu Ile
145                 150                 155                 160
Leu Lys Glu Pro Asp Leu Gly Thr Ala Leu Val Leu Cys Pro Ile Ala
                165                 170                 175
Leu Thr Ile Phe Tyr Leu Gly Asn Ile Tyr Pro Pro Leu Val Lys Val
            180                 185                 190
Cys Ser Val Leu Val Ala Leu Gly Met Phe Cys Ser Leu Leu Ile Phe
        195                 200                 205
Ser Gly Ile Ile Pro His Asp Lys Val Lys Pro Tyr Ala Leu Lys Val
    210                 215                 220
Leu Lys Glu Tyr Gln Tyr Glu Arg Leu Ser Pro Ser Asn His His Gln
225                 230                 235                 240
Arg Ala Ser Leu Ile Ser Ile Gly Val Gly Gly Leu Lys Gly Gln Gly
                245                 250                 255
Trp Lys Ser Gly Glu Phe Ala Gly Arg Gly Trp Leu Pro Tyr Gly Tyr
            260                 265                 270
Thr Asp Ser Val Phe Pro Ala Ile Gly Glu Glu Phe Gly Leu Leu Gly
        275                 280                 285
Leu Leu Phe Val Leu Trp Leu Phe Tyr Asn Leu Val Cys Phe Gly Cys
    290                 295                 300
Arg Thr Val Ala Val Ala Val Asp Asp Phe Gly Arg Phe Leu Ala Gly
305                 310                 315                 320
Gly Val Thr Val His Leu Val Met His Val Leu Ile Asn Val Ser Met
                325                 330                 335
Met Ser Gly Leu Leu Pro Ile Thr Gly Val Pro Leu Val Leu Ile Ser
            340                 345                 350
Tyr Gly Gly Ser Ser Val Ile Ser Thr Met Ala Ser Leu Gly Ile Leu
        355                 360                 365
Gln Ser Ile Tyr Ser Arg Arg Phe Ala Lys Tyr
    370                 375
<210>682
<211>184
<212>PRT
<213>Chlamydia trachomatis
<400>682
Met Lys Glu Ile Tyr Tyr Glu Ile Ala Arg Thr Glu Ser Thr Asn Thr
  1               5                  10                  15
Thr Ala Lys Glu Gly Leu Ser Leu Trp Asp Pro Tyr Ala Leu Thr Val
            20                  25                  30
Ile Thr Thr Arg Glu Gln Thr Ala Gly Arg Gly Lys Phe Gly Arg Val
        35                  40                  45
Trp His Ser Thr Asp Gln Asp Leu Leu Ala Ser Phe Cys Phe Phe Leu
    50                  55                  60
Ser Val Asn Asn Val Asp Ser Ala Leu Leu Phe Arg Ile Gly Thr Glu
```

```
 65                  70                  75                  80
Ala Val Met Arg Leu Gly Glu Ser Leu Gly Ile Gln Glu Ala Val Met
                85                  90                  95
Lys Trp Pro Asn Asp Val Leu Val Gln Gly Gln Lys Leu Ser Gly Val
            100                 105                 110
Leu Cys Glu Thr Ile Pro Val Lys Thr Gly Thr Cys Val Ile Ile Gly
        115                 120                 125
Ile Gly Val Asn Gly Asn Val Gly Ala Asp Glu Leu Leu Gly Ile Asn
    130                 135                 140
Gln Pro Ala Thr Ser Leu Gln Glu Leu Ile Gly Arg Pro Val Asp Met
145                 150                 155                 160
Glu Glu Gln Leu Lys Arg Leu Thr Lys Glu Ile Lys His Leu Ile Gln
                165                 170                 175
Thr Leu Pro Leu Trp Gly Arg Glu
            180
<210>683
<211>241
<212>PRT
<213>Chlamydia trachomatis
<400>683
Met Ala Lys Val Arg Leu Asn Lys Phe Leu Ala Ser Ala Gly Val Ala
  1               5                  10                  15
Ser Arg Arg Lys Cys Asp Glu Ile Ile Phe Ala Gly Ser Val Thr Val
             20                  25                  30
Asn Gly Arg Val Ala Thr Gly Pro Phe Val Thr Val Asp Glu Glu Phe
         35                  40                  45
Asp Ser Val Glu Val Gly Gly Gln Arg Ile Gly Ala Glu Lys Lys Val
     50                  55                  60
Tyr Phe Met Val His Lys Pro Leu Gly Tyr Leu Cys Ser Ser Glu Arg
 65                  70                  75                  80
Lys Phe Pro Gly Ser Lys Leu Val Ile Asp Leu Leu Ser His Cys Pro
                85                  90                  95
Tyr Arg Leu Phe Thr Val Gly Arg Leu Asp Lys Glu Thr Ser Gly Leu
            100                 105                 110
Ile Leu Val Thr Asn Asp Gly Glu Phe Ala Asn Arg Val Ile His Pro
        115                 120                 125
Ser Phe Gly Ile Thr Lys Glu Tyr Leu Leu Lys Val Ser Arg Asp Val
    130                 135                 140
Thr Ala Arg Asp Leu Glu Thr Leu Met Ala Gly Thr Val Ile Asp Gly
145                 150                 155                 160
Lys Val Val Arg Pro Val Ser Val Lys Lys Val Arg Arg Gly Thr Ile
                165                 170                 175
Lys Ile Ile Val Asn Glu Gly Lys Lys His Glu Ile Arg Leu Phe Ala
            180                 185                 190
Glu Ala Ala Gly Leu Gln Leu Leu Glu Leu Lys Arg Ile Arg Ile Gly
        195                 200                 205
Ser Leu Val Leu Gly Gly Leu Pro Tyr Gly Lys Tyr Arg Glu Leu Thr
    210                 215                 220
Asp Ser Glu Leu Asp Ser Cys Leu Ser Gly Lys Ser Val Ala Leu Val
225                 230                 235                 240
Ala

<210>684
<211>264
<212>PRT
<213>Chlamydia trachomatis
<400>684
Met Thr Leu Leu Ile Leu Leu Arg His Gly Gln Ser Val Trp Asn Gln
  1               5                  10                  15
Lys Asn Leu Phe Thr Gly Trp Val Asp Ile Pro Leu Ser Gln Gln Gly
             20                  25                  30
```

```
Ile Gln Glu Ala Ile Ala Ala Gly Glu Ser Ile Lys His Leu Pro Ile
          35                  40                  45
Asp Cys Ile Phe Thr Ser Thr Leu Val Arg Ser Leu Met Thr Ala Leu
      50                  55                  60
Leu Ala Met Thr Asn His Ser Ser Gln Lys Val Pro Tyr Ile Val His
 65                  70                  75                  80
Glu Glu Arg Pro Asp Met Ser Arg Ile His Ser Gln Lys Glu Met Glu
                 85                  90                  95
Gln Met Ile Pro Leu Phe Gln Ser Ser Ala Leu Asn Glu Arg Met Tyr
            100                 105                 110
Gly Glu Leu Gln Gly Lys Asn Lys Gln Glu Val Ala Val Gln Phe Gly
        115                 120                 125
Glu Glu Gln Val Lys Leu Trp Arg Arg Ser Tyr Arg Ile Ala Pro Pro
    130                 135                 140
Gln Gly Glu Ser Leu Phe Asp Thr Gly Gln Arg Thr Leu Pro Tyr Phe
145                 150                 155                 160
Gln Glu Arg Ile Phe Pro Leu Leu Gln Gln Gly Lys Asn Ile Phe Ile
                165                 170                 175
Ser Ala His Gly Asn Ser Leu Arg Ser Leu Ile Met Asp Leu Glu Lys
            180                 185                 190
Leu Ser Glu Glu Gln Val Leu Ser Leu Glu Leu Pro Thr Gly Gln Pro
        195                 200                 205
Ile Val Tyr Glu Trp Thr Gly Gln Lys Phe Thr Lys His Ala Pro Ser
    210                 215                 220
Leu Gly Lys Gln Pro Thr Ser His Pro Ser Phe Arg Asn Gly Glu Arg
225                 230                 235                 240
Gly Phe Ser Thr Leu Arg Arg Arg Ile Phe Val Gln Arg Lys Tyr Leu
                245                 250                 255
His Ser Asp Phe Thr Ser Arg Ser
            260
<210>685
<211>387
<212>PRT
<213>Chlamydia trachomatis
<400>685
Leu Tyr Thr Asn Gly Arg Asp Lys Asn Ser Arg Asn Thr Leu Leu Leu
  1                 5                  10                  15
Leu Val Asn Asn Gln Gln Ala Ile Pro Pro Ser Glu Met Val Lys Glu
             20                  25                  30
Ala Phe Gln Arg Tyr Ala Asp Val Phe Ser Tyr Ser Ala Asn Thr Ser
          35                  40                  45
Ile Leu Thr Leu Gln Ala Glu Ala Glu Ala Ser Ala Arg Lys Leu Thr
      50                  55                  60
Gly Cys Gln Glu Lys Ala Phe Thr Phe His Phe Ile Leu His Tyr Pro
 65                  70                  75                  80
Asn Val Thr Ala Ile Ile Val Ala Ala Leu Leu Glu Asn Gln Asn Ala
                 85                  90                  95
Phe Gln Gly Arg Asn His Leu Leu Val Pro Ser Cys Glu Gln Gln Phe
            100                 105                 110
Ile Ile Asn Ala Leu Cys Arg Arg Gln Asn Leu Gly Thr Thr Tyr Asp
        115                 120                 125
Trp Val Thr Ser Lys Asn Gly Arg Val Lys Glu Ser Asp Leu Ala Glu
    130                 135                 140
Ala Leu Ser Pro Arg Thr Leu Leu Phe Ser Ile Ser Ala Ala Asn Gly
145                 150                 155                 160
Met Thr Gly Phe Leu Glu Ala Ile Pro Glu Leu Ala Ala Leu Cys Lys
                165                 170                 175
Glu Arg Gly Val Ile Phe His Ile Asp Leu Ser Asp Ile Leu Gly Arg
            180                 185                 190
Cys Ala Leu Pro Ala Glu Leu Tyr Gln Ala Asp Ile Leu Thr Phe Ser
        195                 200                 205
```

Ser Gln Ser Leu Gly Gly Ile Gly Pro Ser Gly Ala Met Phe Ile Ser
210 215 220
Pro Ala Leu Thr Lys Tyr Phe Ser Leu Trp Leu Pro Ser Asn Pro Gln
225 230 235 240
Val Pro Thr Cys Leu Ser Ser Leu Ala Ala Phe Ser Leu Ala Cys Gln
245 250 255
Glu Arg Thr Thr Ala Phe Ser Ser Leu Val Leu Ser Ala Ile Ser Ser
260 265 270
Arg Ala Ala Leu Lys Gln Ala Leu Ser Ala Ile Pro Gln Val Glu Phe
275 280 285
Leu Leu Glu Asp Ser Ala Pro Arg Leu Pro Asn Val Ala Val Phe Ala
290 295 300
Ile Pro Gly Ile Pro Ala Glu Ser Leu Gly Phe Phe Leu Ser Gln Lys
305 310 315 320
Asn Ile Phe Val Gly Leu Gly Tyr Glu Arg Phe Gln Pro Leu Ser Gln
325 330 335
Ile Leu Gln Ser Ser Gly Ile Ser Pro Phe Leu Cys His Ser Ala Leu
340 345 350
His Val Ser Phe Thr Glu Arg Thr Pro Thr Thr His Phe Ser Ala Leu
355 360 365
Ala Thr Ala Leu Gln Glu Gly Ile Ser His Leu Gln Pro Leu Val Thr
370 375 380
Gln Ser Leu
385
<210>686
<211>234
<212>PRT
<213>Chlamydia trachomatis
<400>686
Thr Trp Arg Thr Leu Ser His Asp Gln Glu Asp Glu Glu Ile Gln Leu
1 5 10 15
Val Ile Gly Lys Gln Gly His Leu Leu Met Gly Asn Thr Leu Leu Phe
20 25 30
Tyr Trp Leu Val Asp Lys Thr Asn Gly Ile Ile Arg Glu Ala Lys Phe
35 40 45
Gln Tyr Phe Gly His Pro Tyr Leu Leu Val Leu Ala Glu Ala Thr Cys
50 55 60
Ser Leu Val Ile Gly Lys Thr Phe Ala Glu Ala Tyr Lys Ile Thr Ile
65 70 75 80
Asn Asp Leu Asp Gln Glu Val Arg Gly His Ala Asn Pro Ser Ile Phe
85 90 95
Leu Glu Asp Leu Ser Pro Leu Tyr His Leu Val Ile Asp Ala Leu Asp
100 105 110
Ile Ala Ile Glu Gln Cys Val Asp Ile Pro Val Asn Asp Ser Pro Phe
115 120 125
Pro Phe Lys Asp Ala Leu Ser Gln Leu Ser Glu Gly Asn Pro Tyr Ser
130 135 140
Thr Glu Glu Trp Gly Ala Leu Ser His Asp Glu Gln Leu Ser Ala Leu
145 150 155 160
Asn Thr Met Met Lys Glu Lys Ile Ala Pro Leu Val Ala Val Asp Ser
165 170 175
Gly Asp Val Arg Ile Val His Phe Glu Gly Leu Thr Val Thr Ile Ala
180 185 190
Tyr Ser Gly Asn Cys Ser Ser Cys Leu Ser Ser Val Gly Ser Thr Leu
195 200 205
Asn Ser Ile Gly Gln Leu Phe Arg Ala His Val Tyr Pro Leu Leu Glu
210 215 220
Ile Lys Val Asp Glu Gln Ser Leu Leu Phe
225 230
<210>687
<211>340

<212>PRT
<213>Chlamydia trachomatis
<400>687
Glu Leu Thr Ser Trp Arg Met Pro Val Leu Pro Arg Phe Leu Lys Asn
1 5 10 15
Lys Ile Ala Ser Thr Lys Ser Leu Gly Tyr Leu Leu Ala Ala Ile Leu
20 25 30
Ile Gly Phe Ile Met Leu Tyr Lys Pro Ser Ser Pro Gln Pro Thr Pro
35 40 45
Thr Val Ala Ser Thr Glu Lys Lys Pro Ser His Trp Leu Lys Leu Ser
50 55 60
His Leu Gly Asn Leu Gln Ser Ile Glu Ile Gln Ala Lys Lys Glu Gln
65 70 75 80
Leu Glu Lys Asp Leu Thr Leu Phe Glu Pro Val Leu Gln Ala Thr Val
85 90 95
Ala Leu Ser Gln Glu Glu Asp Ser Leu Ala Glu Ile Ser Val Ile Leu
100 105 110
Ser Leu Pro Gln Ala Ser Thr Leu Ser Pro Ser Leu Val His Ser Ile
115 120 125
Thr Asp Tyr Leu Thr Arg Ser Val Pro Gly Leu Thr Lys Glu His Ile
130 135 140
Thr Leu Ser Asp Gln His Gly Asn Leu Tyr Ser Pro Leu Phe Glu Gln
145 150 155 160
Ser Asn Thr Leu Leu Thr Thr Ser Leu Glu Arg Ser Leu Gln Thr Ile
165 170 175
Leu Pro Gln Thr His Phe Ala Leu Asn Tyr Ile Pro Val Ala Asp Glu
180 185 190
Gly His Leu Gln Leu Leu Val Asp Glu Asp Tyr Leu Asn Thr Leu Pro
195 200 205
Lys Gly Ala Arg Val Lys Leu Leu Ser His Met Gln Glu Ile Leu Ser
210 215 220
Ala Phe Ser Glu Met His Pro Ser Val Asp Ile Val Pro Phe Leu Lys
225 230 235 240
Pro Val Ala His Lys Thr Ser Arg Leu Ser Ser Ile Val Leu Ser Ile
245 250 255
Thr Ile Val Leu Leu Ser Leu Gly Ile Leu Gly Phe Ala Thr Phe Tyr
260 265 270
Leu Ala Phe His Thr Tyr Asp His Val Ser Gln Gln Lys Glu Lys Ile
275 280 285
Gln Ser Ile Asn Ile Pro Lys Leu Ile Glu Met Met Lys Arg Glu Ser
290 295 300
Pro Glu Lys Val Ala Leu Ile Leu Ser Tyr Leu Asp Ser Ala Lys Ala
305 310 315 320
Glu Glu Leu Leu Asn Lys Leu Pro Glu Glu Met Lys Ser Ala Val Leu
325 330 335
Lys Leu Arg Thr
340

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20 25 30
Glu Gln Lys Ala Leu Ser His Glu Leu Leu Ser Leu Ile Gln Val Phe
35 40 45
Arg Lys Leu Ser Val His Leu Leu Ser Glu Ile Glu Lys Leu Ser Gln
50 55 60
Lys Leu Lys Pro Glu Leu Leu Glu Leu Ala Val Leu Val Cys Glu Lys

65 70 75 80
Phe Leu Tyr Arg Lys Leu Ala Cys Thr Glu Glu Leu Ala Leu Leu Ile
85 90 95
Ser Ala Ala Leu Gln His His Leu Ala Thr Tyr Ala Val Ser Pro Ile
100 105 110
Lys Ile Gly Leu His Pro Glu Asp Leu Ser Asn Leu Ser Lys Trp Leu
115 120 125
Ile Leu His Asp Val Pro Leu Leu Lys Asn Ile Glu Phe Ile Ala Asp
130 135 140
Pro Leu Cys Lys Lys Ala Ser Tyr Lys Ile Glu Leu Pro Ser Gly Ile
145 150 155 160
Leu Arg Gln Asp Ile Gly Glu Glu Leu Ser His Leu Leu Ser Val Leu
165 170 175
Thr Pro

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Tyr Arg Glu Cys Gly Ile Leu Ser Arg Ile Ser Gly Ser Leu Leu Glu
20 25 30
Ala Gln Gly Leu Ser Ala Cys Leu Gly Glu Leu Cys Gln Ile Ser Leu
35 40 45
Ser Arg Ser Asp Pro Ile Leu Ala Glu Val Ile Gly Ile His Asn Arg
50 55 60
Thr Thr Leu Leu Leu Ala Leu Thr Pro Ile Tyr Tyr Leu Ala Ile Gly
65 70 75 80
Ala Glu Val Val Pro Leu Arg Arg Pro Ala Ser Leu Pro Leu Ser Asn
85 90 95
His Leu Leu Gly Arg Val Leu Asp Gly Phe Gly Asn Pro Leu Asp Gly
100 105 110
Gly Ser Gln Leu Pro Lys Thr Asn Leu Ser Pro Leu Phe Ser Ser Pro
115 120 125
Ser Ser Pro Met Ser Arg Thr Pro Ile Gln Glu Val Phe Pro Thr Gly
130 135 140
Ile Arg Ala Ile Asp Ala Leu Leu Thr Ile Gly Glu Gly Gln Arg Val
145 150 155 160
Gly Ile Phe Ser Glu Pro Gly Gly Gly Lys Ser Ser Leu Leu Ser Thr
165 170 175
Ile Ala Lys Gly Ser Gln Gln Thr Ile Asn Val Ile Ala Leu Ile Gly
180 185 190
Glu Arg Gly Arg Glu Val Arg Asp Tyr Val Asn Gln His Lys Glu Gly
195 200 205
Leu Ala Ala Gln Arg Thr Val Ile Ile Ala Ser Thr Ala Tyr Glu Thr
210 215 220
Ala Ala Ser Lys Val Ile Ala Gly Arg Ala Ala Ile Thr Ile Ala Glu
225 230 235 240
Tyr Phe Arg Asp Gln Gly Ala Arg Val Leu Phe Thr Met Asp Ser Leu
245 250 255
Ser Arg Trp Ile Glu Ser Leu Gln Glu Val Ala Ile Ala Arg Gly Glu
260 265 270
Thr Leu Ser Thr His His Tyr Ala Ala Ser Val Phe His His Val Ala
275 280 285
Glu Phe Leu Glu Arg Ala Gly Asn Asn Asp Lys Gly Ser Ile Thr Ser
290 295 300
Phe Tyr Ala Ile Leu His Tyr Ala Asn His Pro Asp Ile Phe Thr Asp
305 310 315 320
Tyr Val Lys Ser Leu Leu Asp Gly His Phe Phe Leu Ser Pro Gln Glu

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                325                 330                 335
Lys Ser Phe Ser Ser Pro Pro Ile Asn Val Leu Thr Ser Leu Ser Arg
            340                 345                 350
Ser Ser Arg Gln Leu Ala Leu Pro His His Tyr Ala Ala Ala Gln Glu
        355                 360                 365
Leu Leu Ser Leu Leu Lys Ala Tyr His Glu Ala Ile Asp Ile Ile Gln
    370                 375                 380
Leu Gly Ala Tyr Val Ser Gly Gln Asp Ala His Leu Asp Arg Ala Ile
385                 390                 395                 400
Arg Leu Leu Pro Ser Val Lys Gln Phe Leu Ser Gln Pro Tyr Ser His
                405                 410                 415
Tyr Ser Ala Ile His Glu Thr Ile Glu Gln Leu Cys Gln Leu Leu Lys
            420                 425                 430
His Glu

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<213>Chlamydia trachomatis
<400>690
Phe Phe Phe Gly Leu Val Val Phe Val Cys Arg His Lys His Leu Ser
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Lys Thr Phe Ser Gly Pro Asp Ala Val Tyr Ile Glu Lys Phe Ala Leu
            20                  25                  30
Phe Val Asn Val Leu Asn Val Gly His Ile His Gly Tyr Met Thr Asp
        35                  40                  45
Ile Gly Ile Val Cys Ala Leu Leu Arg Lys Phe Ser Arg Cys Ala Pro
    50                  55                  60
Val Phe Val Val Ser Arg Cys Ser Ile Val Glu Ser Ala Phe Phe Thr
65                  70                  75                  80
Val Ser Asn Arg Val Arg Phe Leu Lys Ser Ser Ile Val Ser Ser Leu
                85                  90                  95
Asp Arg Ser Trp Ser Phe Leu Phe Met Phe Gln Gln Leu Ala Gln Leu
            100                 105                 110
Phe Asn Ser Phe Met Asn Ser
        115
<210>691
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<212>PRT
<213>Chlamydia trachomatis
<400>691
Met Thr Asp Ser Ser Tyr Val Asp Leu Ser Phe Leu Leu Asp Gln Leu
  1               5                  10                  15
Leu Pro Ile Gln Gln Glu His Leu Leu Glu Tyr Trp Pro Ser Leu Ser
            20                  25                  30
Pro Gln Gln Arg Leu Arg Leu Gly Thr Gln Ile Ala Gln Ile Asp Ile
        35                  40                  45
Pro Phe Phe Leu Arg Gln Gln Ala Leu Leu Gln Asn Pro Gln Ala Ser
    50                  55                  60
His Gln Glu Tyr Thr Pro Leu Ser Pro Val His Tyr Ala Gly Asp Asn
65                  70                  75                  80
Pro Ala Tyr Ala Gln Leu Gly Phe Gln Leu Leu Gln Arg Gly Lys Val
                85                  90                  95
Gly Cys Val Val Leu Ala Gly Gly Gln Gly Ser Arg Leu Lys Phe Asp
            100                 105                 110
Gly Pro Lys Gly Leu Tyr Pro Val Ser Ser Val Lys Lys Lys Pro Leu
        115                 120                 125
Tyr Gln Leu Val Ala Glu Lys Val Ala Ala Ala Ser Lys Trp Val Gly
    130                 135                 140
Arg Pro Leu Pro Leu Ala Ile Met Thr Ser Pro Leu Asn His Lys Gln
145                 150                 155                 160
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Thr Leu Ser Tyr Phe Ala Thr Asn Asp Tyr Phe Asn Leu Ser Pro Ser
                165                 170                 175
Gln Val Asp Phe Phe Cys Gln Pro Leu Trp Pro Leu Leu Ser Leu Ser
            180                 185                 190
Gly Asp Leu Phe Leu Glu Ser Glu Asp Arg Leu Ser Leu Gly Pro Thr
        195                 200                 205
Gly Asn Gly Cys Leu Ser Thr Leu Leu Gln Ser Ser Gly Ile Trp Asp
    210                 215                 220
Lys Trp His Gln Ala Gly Ile Glu Met Val Ser Val Ile Pro Ile Asp
225                 230                 235                 240
Asn Pro Leu Ala Leu Pro Phe Asp Arg Glu Leu Val Gly Phe His Ala
                245                 250                 255
Ala Glu His Asn Asp Val Thr Ile Lys Thr Thr Leu Arg Gln Ser Ala
            260                 265                 270
Gln Glu Asp Val Gly Val Leu Ile Glu Leu Ala Lys Gln Lys Ile Ala
        275                 280                 285
Val Val Glu Tyr Ser Thr Leu Thr Thr Lys Glu Arg Cys Ala Lys Thr
    290                 295                 300
Thr Glu Gly Asp Leu Thr Tyr Lys Leu Ala Asn Ile Gly Leu Tyr Cys
305                 310                 315                 320
Leu Ser Met Asp Phe Leu Ala Gln Thr Ala Tyr Gln Pro Leu Pro Leu
                325                 330                 335
Tyr Lys Ala Asn Lys His Ala Lys Gln Leu His Pro Ser Thr Thr Glu
            340                 345                 350
Lys Asn Ala Trp Lys Phe Glu Glu Phe Ile Phe Asp Leu Phe Gln Tyr
        355                 360                 365
Ser Glu His Ser Gln Ala Ile Val Tyr Pro Arg His Glu Cys Phe Ala
    370                 375                 380
Pro Leu Lys Asn Tyr Glu Gly Asn His Ser Pro Ala Thr Val Arg Glu
385                 390                 395                 400
Ala Met Arg Lys Arg Glu His Ala Leu Phe Thr Ala Val Thr Glu Arg
                405                 410                 415
Lys Leu Ser Pro Asn Thr Ile Phe Glu Leu Glu Ala Asp Phe Tyr Tyr
            420                 425                 430
Pro Ser Ser His Thr Ser Leu Glu Trp Glu Thr Lys Ile Phe Phe Gln
        435                 440                 445
Glu Thr Ile Ile Glu Ala Ser
    450                 455
<210>692
<211>336
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<400>692
Gly Leu Met Lys Glu Thr Ile Ala Tyr Leu Gly Met Gly Met Trp Gly
  1               5                  10                  15
Phe Ser Leu Ala Asn Leu Leu Ala Asn Asn Gly His Arg Val Val Gly
            20                  25                  30
Trp Ala Arg Asn Pro Ala Leu Ile Glu Gln Leu Ser Val Gln Arg Arg
        35                  40                  45
His Pro Ala Ala Pro His Ile Ser Ile Pro Gln Asn Leu Ser Phe Thr
    50                  55                  60
Tyr His Met Glu Glu Ala Leu Asp Gly Ala Thr Met Ile Val Glu Gly
65                  70                  75                  80
Val Thr Ser Ala Gly Met Arg Pro Val Leu Thr Gln Leu Lys Ala Leu
                85                  90                  95
Thr Glu Leu Arg Val Pro Leu Val Ile Thr Ser Lys Gly Ile Glu Gln
            100                 105                 110
Asn Thr Gly Leu Leu Leu Ser Glu Ile Ala Leu Glu Ile Phe Gly Arg
        115                 120                 125
Pro Ala Ala Gln His Leu Gly Tyr Leu Ser Gly Pro Ser Ile Ala Ser
    130                 135                 140
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Glu Val Leu Arg Gly Cys Pro Cys Ser Val Val Ile Ser Ala Tyr Asn
145 150 155 160
Pro Asp Thr Leu Lys Gln Ile His Arg Ala Phe Leu Thr Pro Thr Phe
165 170 175
Arg Val Tyr Pro Asn Ser Asp Leu Lys Gly Val Ala Leu Gly Gly Ala
180 185 190
Leu Lys Asn Val Ile Ala Ile Ala Cys Gly Ile Ser Asp Gly Phe Arg
195 200 205
Phe Gly Asp Asn Ala Lys Ser Gly Leu Val Thr Arg Gly Leu His Glu
210 215 220
Ile Arg Lys Phe Ala Thr Ile Met Gly Cys Arg Pro Asp Thr Leu Asn
225 230 235 240
Gly Leu Ala Gly Leu Gly Asp Leu Cys Thr Thr Cys Phe Ser Ala Phe
245 250 255
Ser Arg Asn Thr Leu Phe Gly Lys Leu Leu Ala Glu Gly Leu Thr Pro
260 265 270
Glu Gln Ala Lys Thr Lys Ile Gly Met Val Val Glu Gly Val Tyr Thr
275 280 285
Ala Leu Ser Ala His Gln Ile Ala Thr His His Arg Ile Asp Met Pro
290 295 300
Ile Thr Thr Ser Val Tyr Arg Val Leu Tyr Glu Asn Leu Asp Ile Gln
305 310 315 320
Glu Gly Ile Ala Gln Leu Leu Gln Arg Asp Thr Lys Glu Glu Tyr Leu
325 330 335

<210>693
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<213>Chlamydia trachomatis
<400>693
Met Ser Ser Lys Leu Val Asn Tyr Leu Arg Leu Thr Phe Leu Ser Phe
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Leu Gly Ile Ala Ser Thr Ser Leu Asp Ala Met Pro Ala Gly Asn Pro
20 25 30
Ala Phe Pro Val Ile Pro Gly Ile Asn Ile Glu Gln Lys Asn Ala Cys
35 40 45
Ser Phe Asp Leu Cys Asn Ser Tyr Asp Val Leu Ser Ala Leu Ser Gly
50 55 60
Asn Leu Lys Leu Cys Phe Phe Gly Asp Tyr Ile Phe Ser Glu Glu Ala
65 70 75 80
Gln Val Lys Asp Val Pro Val Val Thr Ser Val Thr Thr Ala Gly Ile
85 90 95
Gly Pro Ser Pro Asn Ile Thr Ser Thr Thr Lys Thr Arg Asn Phe Asp
100 105 110
Leu Val Asn Cys Asn Leu Asn Ala Asn Cys Val Ala Ala Ala Phe Ser
115 120 125
Leu Pro Asp Arg Ser Leu Ser Ala Ile Pro Leu Phe Asp Val Ser Phe
130 135 140
Glu Val Lys Val Gly Gly Leu Lys Gln Tyr Tyr Arg Leu Pro Met Asn
145 150 155 160
Ala Tyr Arg Asp Phe Thr Ser Glu Pro Leu Asn Ser Glu Ser Glu Val
165 170 175
Thr Asp Gly Met Ile Glu Val Gln Ser Asn Tyr Gly Phe Val Trp Asp
180 185 190
Val Ser Leu Lys Lys Val Ile Trp Lys Asp Gly Val Ser Phe Val Gly
195 200 205
Val Gly Ala Asp Tyr Arg His Ala Ser Cys Pro Ile Asp Tyr Ile Ile
210 215 220
Ala Asn Ser Gln Ala Asn Pro Glu Val Phe Ile Ala Asp Ser Asp Gly
225 230 235 240
Lys Leu Asn Phe Lys Glu Trp Ser Val Cys Val Gly Leu Thr Thr Tyr
245 250 255

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Val Asn Asp Tyr Val Leu Pro Tyr Leu Ala Phe Ser Ile Gly Ser Val
            260                 265                 270
Ser Arg Gln Ala Pro Asp Asp Ser Phe Lys Lys Leu Glu Asp Arg Phe
        275                 280                 285
Thr Asn Leu Lys Phe Lys Val Arg Lys Ile Thr Ser Ser His Arg Gly
    290                 295                 300
Asn Ile Cys Ile Gly Ala Thr Asn Tyr Ile Ala Asp Asn Phe Phe Tyr
305                 310                 315                 320
Asn Val Glu Gly Arg Trp Gly Ser Gln Arg Ala Val Asn Val Ser Gly
                325                 330                 335
Gly Phe Gln Phe
            340
<210>694
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<212>PRT
<213>Chlamydia trachomatis
<400>694
Leu Asp Met Arg Gly Asn Leu Leu Leu Ile Ser Leu Glu Gly Glu Val
  1               5                  10                  15
Lys Arg Arg Gly Phe Gly Gly Leu Glu Leu Glu Ser Ser Gly Asp Val
            20                  25                  30
His Ser Ala Leu Ala Ser Pro Ser Ser Phe Tyr Val Val Glu Glu Val
        35                  40                  45
Ile Gly Asp Ile Val Cys Arg Ser Asp Ala Asp Val Ser Thr Met Arg
    50                  55                  60
Ala Gly Asn Phe Thr Asn Phe Lys Phe Glu Val Ser Glu Ala Ile Phe
65                  70                  75                  80
<210>695
<211>395
<212>PRT
<213>Chlamydia trachomatis
<400>695
Arg Ala Lys Thr Ile Met Arg Asn His Pro Ile Pro Glu Gly Gln Lys
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Tyr Phe Val Pro Thr Ile Glu Thr Ala Ala Pro Arg Glu Arg Arg Val
            20                  25                  30
Ser Pro Ala Glu Val Ala Ala Asp Tyr Thr Gln Leu His Glu Ala Ala
        35                  40                  45
Thr Tyr Leu Gln Val Phe Gln Asp Leu Leu Asn Asp Ala His Gln Leu
    50                  55                  60
Gly Leu Asn Lys Glu Phe Val Glu Ser Leu Arg Gln Asp Phe Leu Lys
65                  70                  75                  80
Thr Gly Ser Glu Met Ser Leu Met Gln Ala Leu Trp Thr Glu Glu Ser
                85                  90                  95
Gln Arg Glu Ala Arg Lys Arg Glu Arg Lys Glu Leu Gln Gln Gln Leu
            100                 105                 110
Glu Ser Lys Val Leu Gly Pro Gln Ala Leu Thr Thr Ala Lys Glu Leu
        115                 120                 125
His Pro Val Asp Asp Ser Ile Val Asn Lys Met Pro Phe Gln Ser Ala
    130                 135                 140
Phe Ala Tyr Ile Leu Leu Asp Lys Tyr Ile Pro Ala Gln Glu Glu Ala
145                 150                 155                 160
Leu Tyr Ala Leu Ala Arg Glu Leu Asn Phe Ser Gly Tyr Ala Gln Thr
                165                 170                 175
Leu Phe Ser Pro Val Leu Glu Leu Val Lys Ser Phe Asn Asn Ala Pro
            180                 185                 190
Ile Val Tyr Asn Leu Gly Ser Tyr Ile Gly Gln Thr Ala Gly Thr Ala
        195                 200                 205
Asn Phe Lys Tyr Gly Tyr Gln Met Val Leu Asp Arg Tyr Glu Thr Glu
    210                 215                 220
Thr Gly Gln Leu Arg Lys Asp Ile Lys Asn Ala Glu Asn Ala Lys Gln
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225                 230                 235                 240
Gln Leu Ala Gln Ile Ile Lys Asn Val Glu Ala Asn Asn Ser Leu Thr
                245                 250                 255
Thr Glu His Lys Thr Gln Leu Lys Asp Met Ala Asn Gly Tyr Ile Gln
            260                 265                 270
Thr Leu Asp Val Cys Ile Ser Gln Met Gln Glu Leu Ser Thr Gly Leu
        275                 280                 285
Arg Gly Leu Ser Phe Ile Pro Gly Arg Asp Glu Tyr Asn Pro Ala Tyr
    290                 295                 300
Glu Ile Met Gly Ser Ser Phe Ser Val Val Thr Leu Gln Asn Leu Glu
305                 310                 315                 320
Gly Lys Val Val Asp Gly Glu Ile Asn Ile Ser Ser Gly Glu Thr Lys
                325                 330                 335
Gly Gly Leu Leu Asn Phe Phe Thr Tyr Phe Leu Ala Asp Val Gln Asn
            340                 345                 350
Phe Gly Asp Leu Ala Gln Thr Asn Gln Leu Met Leu Glu Leu Gln Met
        355                 360                 365
Arg Ala Met His Gln Gln Trp Ser Leu Val Thr Ala Ser Leu Lys Leu
    370                 375                 380
Leu His Asn Val Tyr Arg Thr Leu Ala Ser Ser
385                 390                 395
<210>696
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<213>Chlamydia trachomatis
<400>696
Gly Thr Asp Phe Trp Arg Asn Met Pro Asp Glu Val Asp Glu Ala Phe
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Thr Ala Lys Ile Gly Ser Lys Glu Phe Asp Thr Trp Ile Gln Gln Leu
            20                  25                  30
Thr Thr Phe Glu Ser Ala Val Ile Glu Gly Gly Arg Asn Gly Val Met
        35                  40                  45
Pro Gly Gly Glu Gln Gln Val Leu Gln Ser Leu Glu Ser Lys Gln Gln
    50                  55                  60
Asp Tyr Thr Ser Phe Asn Gln Asn Gln Gln Leu Ala Leu Gln Met Glu
65                  70                  75                  80
Ser Ala Ala Ile Gln Gln Glu Trp Thr Met Val Ala Ala Ala Leu Ala
                85                  90                  95
Leu Met Asn Gln Ile Phe Ala Lys Leu Ile Arg Arg Phe Lys
            100                 105                 110
<210>697
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<212>PRT
<213>Chlamydia trachomatis
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Lys Ser Glu Val Glu Pro Ser Ser Leu Asn Tyr Phe Asn Ala Met Val
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Glu Ala Lys Lys Thr Phe Val Glu Thr Ser Pro Ile Gln Met Val Tyr
            20                  25                  30
Ser Ser Leu Met Leu Asp Lys Tyr Leu Pro Asn Gln Gln Tyr Ile Leu
        35                  40                  45
Glu Thr Leu Gly Ser Gln Met Thr Phe Ser Asn Lys Ala Ala Arg Tyr
    50                  55                  60
Leu Asn Asp Ile Ile Ala His Ala Val Ser Phe Gln Thr Ala Asn Val
65                  70                  75                  80
Tyr Tyr Ser Leu Gly Met Tyr Leu Arg Gln Met Asn Gln Gln Glu Phe
                85                  90                  95
Pro Glu Val Ile Ser Arg Ala Asn Asp Thr Val Lys Lys Glu Ile Asp
            100                 105                 110
Arg Ser Arg Ala Asp Leu Phe His Cys Lys Lys Ala Ile Glu Lys Ile
        115                 120                 125
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Lys Glu Leu Val Thr Ser Ile Asn Ala Asp Thr Glu Leu Thr Ser Ser
130 135 140
Gln Arg Ala Glu Leu Leu Glu Thr Leu Ala Ser Tyr Ala Phe Glu Phe
145 150 155 160
Glu Asn Leu Tyr His Asn Leu Ser Asn Val Tyr Val Met Val Ser Lys
165 170 175
Val Gln Ile Ser Gly Val Thr Cys Leu Met Lys Trp Met Arg Leu Leu
180 185 190
Leu Leu Arg Leu Asp Arg Arg Asn Ser Ile Leu Gly Phe Ser Ser Leu
195 200 205
Gln His Leu Lys Val Leu
210

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<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>698
Ala Phe Gly Asp Tyr Asn Gly Val Tyr Leu Phe Asp Asn Lys Gly Leu
1 5 10 15
Ala Thr Asn Leu Phe Asn Pro Thr Phe Phe Phe Asp Val Val Ser Leu
20 25 30
Met Thr Ala Asp Pro Thr Lys Thr Met Ser Arg Gln Asp Tyr Asn Lys
35 40 45
Val Ile Thr Ala Ser Glu Ser Ser Ile Gln Lys Ile Asn Gln Ala Ile
50 55 60
Thr Ala Trp Glu Leu Ala Ile Ala Glu Cys Gly Thr Lys Lys Ala Lys
65 70 75 80
Ser Asn His Pro Val
85

<210>699
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<213>Chlamydia trachomatis
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Pro Glu Ser Arg Ser Met Leu Leu Gln Cys Ile Cys Arg Ser Val Phe
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Phe Phe Gln Gln Leu Asp Glu Lys Ser Lys Gly Leu Lys Arg Ala Leu
20 25 30
Gly Leu Leu Glu Glu Val Asp Leu Glu Lys Phe Ile Pro Ser Leu Glu
35 40 45
Lys Ser Pro Thr Pro Ile Thr Thr Gly Thr Thr Ser Lys Ile Ser Ala
50 55 60
Asp Gly Ile Glu Ile Val Gly Glu Leu Ser Ser Glu Thr Ile Leu Ala
65 70 75 80
Asp Pro Asn Lys Ala Ala Ala Gln Val Phe Gly Glu Gly Leu Ala Asp
85 90 95
Ser Phe Asp Asp Trp Leu Arg Leu Ser Glu Asn Gly Gly Ile Gln Asp
100 105 110
Pro Thr Ala Ile Glu Glu Glu Ile Val Thr Lys Tyr Gln Thr Glu Leu
115 120 125
Asn Thr Leu Arg Asn Lys Leu Lys Gln Gln Ser Leu Thr Asp Asp Glu
130 135 140
Tyr Thr Lys Leu Tyr Ala Ile Pro Gln Asn Phe Val Lys Glu Ile Glu
145 150 155 160
Ser Leu Lys Asn Glu Asn Asn Val Arg Leu Ile Pro Lys Ser Lys Val
165 170 175
Thr Asn Phe Trp Gln Asn Ile Met Leu Thr Tyr Asn Ser Val Thr Ser
180 185 190
Leu Ser Glu Pro Val Ala Asp Ala Met Asn Thr Thr Met Thr Glu Tyr
195 200 205
Ser Leu Tyr Ile Glu Arg Ala Thr Glu Ala Ala Lys Leu Ile Arg Glu

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    210                 215                 220
Ile Thr Asn Thr Ile Lys Asp Ile Phe Asn Pro Val Trp Asp Val Arg
225                 230                 235                 240
Glu Gln Thr Gly Ile Phe Arg Leu Lys Gly Ala Glu Tyr Asn Ala Leu
                245                 250                 255
Glu Gly Asn Met Ile Gln Ser Leu Leu Ser Phe Ala Gly Leu Phe Arg
            260                 265                 270
Gln Leu Met Ser Arg Thr Ala Thr Val Asp Glu Ile Gly Ala Leu Tyr
        275                 280                 285
Pro Lys Asn Asp Lys Asn Glu Asp Val Ile His Thr Ala Ile Asp Asp
    290                 295                 300
Tyr Val Asn Ser Leu Ala Asp Leu Lys Ala Asn Glu Gln Val Lys Leu
305                 310                 315                 320
Asn Gly Leu Leu Ser Leu Val Tyr Ala Tyr Tyr Ala Ser Thr Leu Gly
                325                 330                 335
Phe Ala Lys Lys Asp Val Phe Asn Asn Ala Gln Ala Ser Phe Thr Asp
            340                 345                 350
Tyr Thr Asn Phe Leu Asn Gln Glu Ile Gln Tyr Trp Arg Pro Arg Glu
        355                 360                 365
Thr Ser Ser Phe Asn Ile Ser Asn Gln Ala Leu Arg Thr Phe Lys Asn
    370                 375                 380
Lys Pro Ser Val Ile Ile Thr Ala Tyr Ile Phe Leu Ile Ile Lys Asp
385                 390                 395                 400
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<212>PRT
<213>Chlamydia trachomatis
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Trp Ile Glu Glu Val Ile Ala Leu Val Ser Pro Asp Asp Val Arg Leu
             20                  25                  30
Cys Asp Gly Ser Glu Ala Glu Tyr Gln Gln Leu Cys Gln Gln Met Gln
         35                  40                  45
Asp Ala Gly Val Met Thr Pro Leu Asn Pro Glu Leu His Pro Asn Cys
     50                  55                  60
Phe Leu Val Arg Ser Ser Pro Ser Asp Val Ala Arg Ala Glu Gln Phe
 65                  70                  75                  80
Thr Phe Ile Cys Thr Lys Thr Gln Glu Glu Ala Gly Pro Thr Asn Asn
                 85                  90                  95
Trp Arg Asp Pro Gln Glu Met Arg Ala Glu Leu His Ala Leu Phe Arg
            100                 105                 110
Gly Cys Met Arg Gly Arg Thr Leu Tyr Ile Val Pro Phe Cys Met Gly
        115                 120                 125
Pro Leu Asn Ser Pro Phe Ser Leu Ile Gly Val Glu Ile Thr Asp Ser
    130                 135                 140
Pro Tyr Val Val Cys Ser Met Lys Ile Met Thr Arg Met Gly Ala Ser
145                 150                 155                 160
Val Leu Ala Met Leu Gly Ser Asn Gly Thr Phe Tyr Lys Cys Leu His
                165                 170                 175
Ser Val Gly Lys Pro Leu Ala Pro Gly Glu Lys Asp Val Ala Trp Pro
            180                 185                 190
Cys Asp Pro Glu His Met Arg Ile Val His Phe Gln Asp Asp Ser Ser
        195                 200                 205
Val Met Ser Phe Gly Ser Gly Tyr Gly Gly Asn Ala Leu Leu Gly Lys
    210                 215                 220
Lys Cys Xaa Thr Leu Arg Leu Ala Ser Tyr Leu Gly His Gln Gln Gly
225                 230                 235                 240
Trp Leu Ala Glu His Met Leu Ile Ile Gly Val Thr Asn Pro Glu Gly
                245                 250                 255
Arg Lys Lys Tyr Phe Ala Ala Ala Phe Pro Ser Ala Cys Gly Lys Thr
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            260                 265                 270
Asn Leu Ala Met Leu Met Pro Lys Leu Pro Gly Trp Lys Val Glu Cys
        275                 280                 285
Ile Gly Asp Asp Ile Ala Trp Ile Arg Pro Gly Asn Asp Gly Arg Leu
    290                 295                 300
Tyr Ala Val Asn Pro Glu Phe Gly Phe Phe Gly Val Ala Leu Gly Thr
305                 310                 315                 320
Ser Glu Thr Thr Asn Pro His Ala Leu Ala Thr Cys His Ala Asp Ser
                325                 330                 335
Leu Phe Thr Asn Val Ala Leu Thr Ala Asp Gly Asp Val Trp Trp Glu
            340                 345                 350
Gly Lys Thr Thr Thr Pro Pro Gln Gly Met Ile Asp Trp Lys Gly Arg
        355                 360                 365
Ala Trp Val Ser Gly Gly Glu Pro Ala Ala His Pro Asn Ala Arg Phe
    370                 375                 380
Thr Ala Pro Leu Asp His Cys Pro Ser Leu Asp Pro Gln Trp Asn Asn
385                 390                 395                 400
Pro Gln Gly Val Pro Leu Glu Ala Val Ile Phe Gly Gly Arg Arg Thr
                405                 410                 415
Glu Thr Ile Pro Leu Val Tyr Glu Ala Leu Ser Trp Glu His Gly Val
            420                 425                 430
Met Met Gly Ala Gly Met Ser Ser Thr Thr Thr Ala Ala Ile Val Gly
        435                 440                 445
Glu Leu Gly Lys Leu Arg His Asp Pro Phe Ala Met Leu Pro Phe Cys
    450                 455                 460
Gly Tyr Asn Met Ala Ala Tyr Phe Glu His Trp Leu Ser Phe Ala Thr
465                 470                 475                 480
Lys Gly Leu Gln Leu Pro Arg Ile Phe Gly Val Asn Trp Phe Arg Lys
                485                 490                 495
Asp Glu His Gly Gln Phe Ile Trp Pro Gly Phe Ser Glu Asn Leu Arg
            500                 505                 510
Val Leu Glu Trp Ile Phe Arg Arg Thr Asp Gly Glu Asp Ala Ile Ala
        515                 520                 525
His Arg Thr Pro Val Xaa Tyr Leu Pro Thr Ala Glu Gly Leu Asn Thr
    530                 535                 540
Ser Gly Leu Asp Leu Ser Glu Asp Ala Leu Arg Ala Leu Leu Thr Val
545                 550                 555                 560
Asp Ala Gln Gly Trp Lys Ala Glu Val Ser Asn Ile Arg Lys Tyr Cys
                565                 570                 575
Ser Ile Phe Gly Ala Asp Met Pro Gln Arg Ile Leu Glu Glu Leu Ser
            580                 585                 590
Arg Ile Glu Ser Glu Leu Lys
        595
<210>701
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<212>PRT
<213>Chlamydia trachomatis
<400>701
Met Ser Pro Tyr Arg Ser Leu Tyr Lys Ile Lys His Leu Ser Asn Arg
  1               5                  10                  15
Leu Tyr Asn Lys Ala Leu Gly Arg Phe Asp Arg Val Phe Asn Phe Phe
            20                  25                  30
Ser Gly Asn Val Gly Ile Asp Leu Gly Thr Ala Asn Thr Leu Val Tyr
        35                  40                  45
Val Arg Gly Arg Gly Ile Val Leu Ser Glu Pro Ser Val Val Ala Val
    50                  55                  60
Asp Ala Gln Thr His Ala Val Leu Ala Val Gly His Lys Ala Lys Ala
65                  70                  75                  80
Met Leu Gly Lys Thr Pro Arg Lys Ile Val Ala Val Arg Pro Met Lys
                85                  90                  95
Asp Gly Val Ile Ala Asp Phe Glu Ile Ala Glu Gly Met Leu Lys Ala
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                100                 105                 110
Leu Ile Lys Arg Val Thr Pro Ala Arg Ser Met Phe Arg Pro Lys Ile
        115                 120                 125
Leu Ile Ala Val Pro Ser Gly Ile Thr Gly Val Glu Lys Arg Ala Val
    130                 135                 140
Glu Asp Ser Ala Leu His Ala Gly Ala Gln Glu Val Ile Leu Ile Glu
145                 150                 155                 160
Glu Pro Met Ala Ala Ala Ile Gly Val Asp Leu Pro Val His Glu Pro
                165                 170                 175
Ala Ala Ser Met Ile Ile Asp Ile Gly Gly Gly Thr Thr Glu Ile Ala
            180                 185                 190
Ile Ile Ser Leu Gly Gly Ile Val Glu Ser Arg Ser Leu Arg Ile Ala
        195                 200                 205
Gly Asp Glu Phe Asp Glu Cys Ile Ile Asn Tyr Met Arg Arg Thr Tyr
    210                 215                 220
Asn Leu Met Ile Gly Pro Arg Thr Ala Glu Glu Ile Lys Ile Thr Ile
225                 230                 235                 240
Gly Ser Ala Tyr Pro Leu Gly Asp Gln Glu Leu Glu Met Glu Val Arg
                245                 250                 255
Gly Arg Asp Gln Val Ala Gly Leu Pro Ile Thr Lys Arg Ile Asn Ser
            260                 265                 270
Val Glu Ile Arg Glu Cys Leu Ala Glu Pro Ile Gln Gln Ile Ile Glu
        275                 280                 285
Cys Val Arg Leu Thr Leu Glu Lys Cys Pro Pro Glu Leu Ser Ala Asp
    290                 295                 300
Leu Val Glu Arg Gly Met Val Leu Ala Gly Gly Gly Ala Leu Ile Lys
305                 310                 315                 320
Gly Leu Asp Lys Ala Leu Ser Lys Asn Thr Gly Leu Ser Val Ile Thr
                325                 330                 335
Ala Pro His Pro Leu Leu Ala Val Cys Leu Gly Thr Gly Lys Ala Leu
            340                 345                 350
Glu His Leu Asp Gln Leu Lys Lys Arg Lys Glu Ser Leu Val
        355                 360                 365
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<210>702
<211>774
<212>PRT
<213>Chlamydia trachomatis
<400>702

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Tyr Ser Tyr Pro Gly Ser Ser Val Trp Phe Leu Leu Arg Glu Arg Phe
  1               5                  10                  15
Ala Ser Ile Pro Lys Phe Ile Ala Glu Leu Ser Asn Val Glu Ala Leu
            20                  25                  30
Asn Val Phe Ser Thr Leu Pro Tyr Thr Glu Glu Leu Gln Gly Val Cys
        35                  40                  45
Asp Ile Ser Tyr Leu Asp Gly Glu Leu Glu Ala Arg Leu Phe Phe Leu
    50                  55                  60
Tyr Asp Gly Gln Lys Val Pro Ala Thr Ser Phe Ser Leu Gln Tyr Gln
65                  70                  75                  80
Glu Val Arg Thr Phe Val Arg Pro Asp Gly Ile Leu Ala Arg Asn Leu
                85                  90                  95
Val Glu Glu Arg Lys Ile Leu Glu Glu Val Phe Ser Gly Phe Val Tyr
            100                 105                 110
Asp Glu Arg Asp Gly Ala Phe His Val Lys Ser Glu Lys Lys Ile Val
        115                 120                 125
Glu Phe Met Thr Glu Thr Ile Pro Asn Asn Gln His Arg Ile Thr Phe
    130                 135                 140
Asn Cys Pro Glu Thr Leu Ser Asp Gln Phe Ile Tyr Asp Glu Thr Val
145                 150                 155                 160
Phe Asp Leu Ile Phe Arg Ala Gly Glu Asp Ile Asn Tyr Tyr Glu Ala
                165                 170                 175
Glu Leu Lys Val His Gly Leu Leu Lys Gly Ile Ser Leu Asp Leu Leu
```

```
                180                 185                 190
Trp Asp Cys Val Ser Ala Lys Lys Arg Phe Leu Glu Leu Pro Lys Lys
        195                 200                 205
Gly Gly Gln Leu Lys Lys Ala Arg Arg Gly Lys Ala Ser Ala Ser Lys
    210                 215                 220
Leu Pro Cys Ile Leu Val Leu Asp Leu Glu Lys Ile Ala Pro Val Ile
225                 230                 235                 240
Gln Ile Phe Asn Glu Ile Gly Phe Gln Val Leu Asp Asp Phe Val Asp
                245                 250                 255
Gln Cys Pro Leu Trp Ser Leu Ser Gly Ile Ser Pro Glu Ser Phe Lys
            260                 265                 270
Asp Leu Pro Val Asn Phe Ser Met Thr Glu Asp Leu Ala Glu Ile Gln
        275                 280                 285
Lys Gln Ile Arg Gly Glu Val Asp Phe Glu Phe Gln Glu Val Pro Ser
    290                 295                 300
Gln Ile Gln Ala Thr Leu Arg Gly Tyr Gln Lys Glu Gly Val His Trp
305                 310                 315                 320
Leu Glu Arg Leu Arg Lys Met His Leu Asn Gly Ile Leu Ala Asp Asp
                325                 330                 335
Met Gly Leu Gly Lys Thr Leu Gln Thr Ile Ile Ala Val Thr Gln Ser
            340                 345                 350
Arg Leu Glu Lys Gly Gly Gly Cys Ser Leu Ile Ile Cys Pro Thr Ser
        355                 360                 365
Leu Val Tyr Asn Trp Lys Glu Glu Phe Arg Lys Phe Asn Pro Glu Phe
    370                 375                 380
Lys Thr Leu Val Val Asp Gly Ile Pro Ser Gln Arg Arg Lys Gln Leu
385                 390                 395                 400
Ala Ser Leu Glu Glu Tyr Asp Val Ala Ile Thr Ser Tyr Asn Leu Leu
                405                 410                 415
Gln Lys Asp Ile Asp Ile Tyr Lys Asp Phe Leu Phe Asp Tyr Val Val
            420                 425                 430
Leu Asp Glu Ala His His Ile Lys Asn Arg Thr Thr Arg Asn Ala Lys
        435                 440                 445
Ser Val Lys Met Ile Arg Ala Cys His Arg Leu Ile Leu Thr Gly Thr
    450                 455                 460
Pro Ile Glu Asn Ser Leu Glu Glu Leu Trp Ser Leu Phe Asp Phe Leu
465                 470                 475                 480
Met Pro Gly Leu Leu Ser Ser Tyr Asp Arg Phe Val Gly Lys Tyr Ile
                485                 490                 495
Arg Ile Gly Asn Tyr Met Gly Asn Lys Ala Asp Asn Val Glu Ala Leu
            500                 505                 510
Arg Arg Lys Val Ala Pro Phe Ile Leu Arg Arg Met Lys Glu Asp Val
        515                 520                 525
Leu Glu Asp Leu Pro Pro Val Ser Glu Ile Leu Tyr His Cys His Leu
    530                 535                 540
Thr Glu Ser Gln Arg Glu Leu Tyr Gln Ser Tyr Ala Ala Ser Ala Arg
545                 550                 555                 560
Gln Glu Leu Ser Arg Leu Val Lys Gln Glu Gly Phe Glu Arg Ile His
                565                 570                 575
Ile His Val Leu Ala Thr Leu Thr Arg Leu Lys Gln Ile Cys Cys His
            580                 585                 590
Pro Ala Ile Phe Ala Lys Asp Thr Pro Glu Pro Gly Asp Ser Ala Lys
        595                 600                 605
Tyr Asp Met Leu Met Asp Leu Leu Ser Ser Leu Val Asp Ser Gly His
    610                 615                 620
Lys Thr Val Val Phe Ser Gln Tyr Thr Lys Met Leu Gly Ile Ile Arg
625                 630                 635                 640
Gln Asp Leu Glu Ala Lys Gly Ile Pro Phe Val Tyr Leu Asp Gly Ser
                645                 650                 655
Thr Lys Asn Arg Leu Glu Ile Val Gln Gln Phe Asn Glu Asp Pro Gly
            660                 665                 670
```

Leu Leu Val Phe Leu Val Ser Leu Lys Ala Gly Gly Thr Gly Leu Asn
675 680 685
Leu Val Gly Ala Asp Thr Val Ile His Tyr Asp Met Trp Trp Asn Pro
690 695 700
Ala Val Glu Asn Gln Ala Thr Asp Arg Val His Arg Ile Gly Gln Ser
705 710 715 720
Arg Ser Val Ser Ser Tyr Lys Leu Val Thr Leu Asn Thr Ile Glu Glu
725 730 735
Lys Ile Leu Ser Leu Gln Asn Arg Lys Lys Gly Leu Val Lys Lys Val
740 745 750
Ile Asn Ser Asp Asp Glu Val Val Ser Lys Leu Thr Trp Glu Glu Val
755 760 765
Leu Glu Leu Leu Gln Ile
770

<210>703
<211>305
<212>PRT
<213>Chlamydia trachomatis
<400>703
Gly Ile Thr Arg Asp Phe Cys Arg Cys Ser Asp Ser Arg Gly Gly Thr
1 5 10 15
Lys Arg Ser Gly Thr Pro Lys Arg Asn Leu Arg Glu Tyr Asn His Ala
20 25 30
Ala Asn Val Leu Ser Glu Asn Pro Phe Phe Leu Pro Leu Glu Tyr Ser
35 40 45
Glu Lys Asp Ser Ala Gly Leu Ala Val Leu Phe Val Pro Gln Lys Asn
50 55 60
Glu Gly Glu Val Phe Ser Pro Asn Gln Pro Ile Glu Phe Gln Leu Val
65 70 75 80
Leu Arg Leu Pro Gly Arg Ser Lys Pro Phe Tyr Ile Ser Asn Ile Lys
85 90 95
Thr Phe Leu Glu Gly Val Leu Tyr Gln Glu Pro Ile Val Phe Ser Gly
100 105 110
Arg Arg Phe Phe Phe Thr Leu Gln Ser Phe Ser Ala Ser Asp Arg Lys
115 120 125
Leu Ile Asp Leu Leu Ile Arg Tyr Ala Arg Tyr Ala Thr Gly Ser Ser
130 135 140
Glu Glu Lys Leu Leu Lys Ser Ala Phe Leu Thr Pro Ala Ser Leu Gly
145 150 155 160
Met Ile Leu Ser Lys Met Phe Glu His Gln Met Ala Glu Ser Gly Gly
165 170 175
Ser Gln Leu Gly Glu Arg Glu Cys Phe Gln Gly Ile Phe Cys Gly Asn
180 185 190
Leu Glu Glu Pro Leu Leu Trp Ser Val Ser Pro Ala Lys Met Lys Phe
195 200 205
His Leu Asp Tyr Phe Asp Thr Pro Tyr Lys Ala Leu Leu Met Lys Pro
210 215 220
Leu Ile Val Val Asp Glu Glu Glu Leu Gln Pro Glu Gln Ala Val Leu
225 230 235 240
Leu Glu Ser Asn Tyr Pro Gly Ile Ile His Lys Asn Val Tyr His His
245 250 255
Phe Leu Pro Gln Ile Lys Arg Ala His Leu Arg Thr Phe Ala Gly Leu
260 265 270
Arg Asp Ile Ala Ile Pro Glu Ala Leu Phe Gly Ser Phe Cys Glu Asn
275 280 285
Ala Leu Pro Val Phe Arg Asn Leu Leu Arg Asn Cys Pro Met Ser Arg
290 295 300
Leu
305

<210>704
<211>138

<212>PRT
<213>Chlamydia trachomatis
<400>704
His Thr Xaa Arg Leu Glu Lys Ser Tyr Phe Ala Gln Gly Ala Val Val
1 5 10 15
Ser Ala Lys Ile Leu Ser Met Asn Gly Glu Thr Val Cys Ile Ser Ala
20 25 30
Gln Ile Arg Gly Ser Tyr Asp Asn Val Tyr Glu Cys Glu Ile Glu Val
35 40 45
Asp Arg Ala Glu Ser Asp Thr Val Asp Ser Asn Cys Asp Cys Ser Tyr
50 55 60
Asn Tyr Asp Cys Gln His Val Val Ala Leu Leu Phe Tyr Leu Glu Gln
65 70 75 80
Tyr Phe Asn Glu Met Val Val Thr Tyr Ser Lys Glu Ala Asp Leu Ser
85 90 95
Ser Asn Glu Glu Val Ser Lys Glu Leu Gln Glu Thr Phe Val Val Ala
100 105 110
Ala Ile Arg Glu Glu Glu Arg Arg Asp Arg Glu His Gln Lys Glu Ile
115 120 125
Phe Gly Asn Thr Ile Met Leu Leu Met Phe
130 135
<210>705
<211>442
<212>PRT
<213>Chlamydia trachomatis
<400>705
Val Ser Ser Arg Asp Phe Ser Asn Asp Leu Phe Ser Ile Asn Ile Glu
1 5 10 15
Glu Asn Ala Gly Cys Val Val Ser Ala Lys Val Gln Ala Asn Pro Leu
20 25 30
Val Thr Gln Lys Cys His Lys Glu Ala Leu Lys Thr Val Lys Lys Asn
35 40 45
Val Val Leu Pro Gly Phe Arg Lys Gly Lys Ala Pro Asp Asn Ile Val
50 55 60
Glu Ser Arg Tyr Ser Thr Gln Val Glu Gln Glu Leu Arg Arg Leu Phe
65 70 75 80
Leu Arg Ala Ser Phe Glu Ala Leu Ser Gln Met Cys Asp Arg Lys Pro
85 90 95
Leu Ser Pro Lys Ala Val Arg Ser Ser Ala Ile Asp Thr Cys Asn Pro
100 105 110
Val Asn Gly Gly Ser Val Ser Phe Leu Tyr Glu Ala Phe Pro Val Ile
115 120 125
Pro Ser Leu Pro Trp Glu Gln Leu Ser Leu Pro Asp Pro Glu Pro Val
130 135 140
Lys Glu Ile Ser Glu Glu Asp Leu Glu Asn Gly Leu Lys Asn Val Ala
145 150 155 160
Tyr Phe Phe Ala Thr Lys Thr Pro Val Thr Arg Pro Ser Gln Glu Gly
165 170 175
Asp Phe Ile Ser Leu Ser Leu Tyr Val Ser Lys Arg Gly Asp Glu Asn
180 185 190
Ser Thr Pro Val Ala Ile Phe Glu Asn Lys Tyr Phe Lys Ile Ser Glu
195 200 205
Glu Asp Met Thr Asp Ser Phe Lys Ala Arg Phe Leu Asn Val Ser Thr
210 215 220
Gly His Arg Val Glu Glu Glu Ile Gly Ser Glu Asp Ile Gln Ser Phe
225 230 235 240
Leu Asn Gly Asp Leu Leu Thr Phe Thr Val Asn Ala Val Ile Glu Ile
245 250 255
Ser Ser Pro Glu Met Asp Asp Glu Lys Ala Arg Glu Leu Gln Ala Glu
260 265 270
Ser Leu Glu Asp Leu Lys Lys Lys Leu Arg Ile Gln Leu Glu Asn Gln

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        275                 280                 285
Ala Lys Glu Ala Gln His Gln Lys Arg Phe Ser Asp Ala Glu Asp Ala
    290                 295                 300
Leu Ala Gln Leu Ile Asp Phe Asp Leu Pro Glu Ser Leu Leu Arg Glu
305                 310                 315                 320
Arg Glu Glu Leu Leu Ser Arg Glu Lys Leu Leu Asn Ala Arg Leu Val
                325                 330                 335
Lys Tyr Cys Ser Asp Ser Glu Leu Glu Glu Gln Lys Gln Ala Leu Leu
            340                 345                 350
Glu Glu Ala Lys Ala Asp Ala Arg Lys Ala Val Lys Leu Leu Phe Leu
        355                 360                 365
Thr Gln Lys Val Phe Ser Glu Lys Gly Leu Ser Ile Ser Arg Glu Glu
    370                 375                 380
Leu Gln Tyr Met Met Asp Val Cys Ser Arg Glu Arg Phe Gly Gly Tyr
385                 390                 395                 400
Pro Pro Lys Asp Ile Ser Asn Glu Met Ile Gln Glu Leu Val Leu Val
                405                 410                 415
Ala Arg Asp Arg Leu Thr Tyr Arg Lys Ala Ile Glu Ala Ile Ser Ser
            420                 425                 430
Glu Lys Lys Asp Leu Glu Val Val Pro Ser
        435                 440
<210>706
<211>209
<212>PRT
<213>Chlamydia trachomatis
<400>706
Leu Arg Gly Ser Thr His Met Thr Leu Val Pro Tyr Val Val Glu Asp
  1                 5                  10                  15
Thr Gly Arg Gly Glu Arg Ala Met Asp Ile Tyr Ser Arg Leu Leu Lys
             20                  25                  30
Asp Arg Ile Val Met Ile Gly Gln Glu Ile Thr Glu Pro Leu Ala Asn
         35                  40                  45
Thr Val Ile Ala Gln Leu Leu Phe Leu Met Ser Glu Asp Pro Thr Lys
     50                  55                  60
Asp Ile Gln Ile Phe Ile Asn Ser Pro Gly Gly Tyr Ile Thr Ala Gly
 65                  70                  75                  80
Leu Ala Ile Tyr Asp Thr Ile Arg Phe Leu Gly Cys Asp Val Asn Thr
                 85                  90                  95
Tyr Cys Ile Gly Gln Ala Ala Ser Met Gly Ala Leu Leu Leu Ser Ala
            100                 105                 110
Gly Thr Lys Gly Lys Arg Tyr Ala Leu Pro His Ser Arg Met Met Ile
        115                 120                 125
His Gln Pro Ser Gly Gly Ile Ile Gly Thr Ser Ala Asp Ile Gln Leu
    130                 135                 140
Gln Ala Ala Glu Ile Leu Thr Leu Lys Lys His Leu Ser Asn Ile Leu
145                 150                 155                 160
Ala Glu Cys Thr Gly Gln Ser Val Glu Lys Ile Ile Glu Asp Ser Glu
                165                 170                 175
Arg Asp Phe Phe Met Gly Ala Glu Glu Ala Ile Ala Tyr Gly Leu Ile
            180                 185                 190
Asp Lys Val Ile Ser Ser Ala Lys Glu Thr Lys Asp Lys Ser Ile Ala
        195                 200                 205
Ser

<210>707
<211>418
<212>PRT
<213>Chlamydia trachomatis
<400>707
Gln Lys Lys Asn Leu Ala Val Cys Ser Phe Cys Gly Arg Ser Glu Lys
  1                 5                  10                  15
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Asp Val Glu Lys Leu Ile Ala Gly Pro Ser Val Tyr Ile Cys Asp Tyr
            20                  25                  30
Cys Ile Lys Leu Cys Ser Gly Ile Leu Asp Lys Thr Pro Ala Pro Ala
        35                  40                  45
Thr Gln Glu Ile Ala Thr Ser Ser Thr Ser Ser Pro Thr Ser Leu Arg
    50                  55                  60
Val Leu Thr Pro Lys Glu Ile Lys Arg His Ile Asp Ser Tyr Val Ile
65                  70                  75                  80
Gly Gln Glu Arg Ala Lys Lys Thr Ile Ser Val Ala Val Tyr Asn His
                85                  90                  95
Tyr Lys Arg Ile Arg Ala Leu Met Gln Asp Lys Gln Val Ser Tyr Gly
            100                 105                 110
Lys Ser Asn Val Leu Leu Leu Gly Pro Thr Gly Xaa Gly Lys Thr Leu
        115                 120                 125
Ile Ala Lys Thr Leu Ala Lys Ile Leu Asp Val Pro Phe Thr Ile Ala
    130                 135                 140
Asp Ala Thr Thr Leu Thr Glu Ala Gly Tyr Val Gly Glu Asp Val Glu
145                 150                 155                 160
Asn Ile Val Leu Arg Leu Leu Gln Ala Ala Asp Tyr Asp Val Ala Arg
                165                 170                 175
Ala Glu Arg Gly Ile Ile Tyr Ile Asp Glu Ile Asp Lys Ile Gly Arg
            180                 185                 190
Thr Thr Ala Asn Val Ser Ile Thr Arg Asp Val Ser Gly Glu Gly Val
        195                 200                 205
Gln Gln Ala Leu Leu Lys Ile Ile Glu Gly Thr Val Ala Asn Ile Pro
    210                 215                 220
Pro Lys Gly Gly Arg Lys His Pro Asn Gln Glu Tyr Ile Arg Val Asn
225                 230                 235                 240
Thr Glu Asn Ile Leu Phe Ile Val Gly Gly Ala Phe Val Asn Leu Asp
                245                 250                 255
Lys Ile Ile Ala Lys Arg Leu Gly Arg Thr Thr Ile Gly Phe Ser Glu
            260                 265                 270
Glu Thr Asp Leu Ala Val Thr Asn Arg Asp His Leu Leu Ala Lys Val
        275                 280                 285
Glu Thr Glu Asp Leu Ile Thr Phe Gly Met Ile Pro Glu Phe Ile Gly
    290                 295                 300
Arg Phe Asn Cys Ile Val Asn Cys Glu Glu Leu Thr Leu Asp Glu Leu
305                 310                 315                 320
Val Glu Ile Leu Thr Glu Pro Ala Asn Ala Ile Xaa Lys Gln Tyr Arg
                325                 330                 335
Glu Leu Phe Glu Glu Glu Asn Val Lys Leu Ile Phe Glu Lys Glu Ala
            340                 345                 350
Leu Tyr Ala Ile Ala Gln Lys Ala Lys Gln Ala Lys Thr Gly Ala Arg
        355                 360                 365
Ala Leu Gly Met Ile Leu Glu Asn Leu Leu Arg Asp Leu Met Phe Glu
    370                 375                 380
Ile Pro Ser Asp Pro Thr Val Glu Ala Ile Arg Ile Glu Glu Asp Thr
385                 390                 395                 400
Ile Thr Gln Asn Lys Pro Pro Val Ile Ile Gln Lys Ser Pro Glu Ala
                405                 410                 415
Ile Ala
```

<210>708
<211>410
<212>PRT
<213>Chlamydia trachomatis
<400>708

```
Met Thr Gln Ser Thr Leu Glu Val Ala Lys Lys Ile Val Arg Lys Leu
  1               5                  10                  15
Arg Asn Ala Gly Tyr Gln Ala Tyr Phe Val Gly Gly Ser Val Arg Asp
            20                  25                  30
```

```
Met Leu Leu Gly Arg Pro Ile Glu Glu Val Asp Ile Ala Thr Asn Ala
          35                  40                  45
Ser Pro Thr Ile Val Thr Thr Ile Phe Pro Asp Thr Leu Ser Ile Gly
      50                  55                  60
Ala Ala Phe Gly Ile Ile Ala Val Lys Glu Asn Gly Gln Leu Phe Glu
 65                  70                  75                  80
Val Ala Thr Phe Arg Ser Asp Glu Asp Tyr Glu Asp Gly Arg His Pro
                 85                  90                  95
Asn Arg Val Val Phe Ala Ser Met Lys Asp Asp Ala Ile Arg Arg Asp
            100                 105                 110
Phe Thr Ile Asn Gly Met Tyr Tyr Asp Pro Phe Leu Glu Lys Leu Phe
        115                 120                 125
Asp Leu Val Glu Gly Arg Ala Asp Leu Glu Arg Xaa Ile Ile Arg Ala
    130                 135                 140
Ile Gly Asn Pro Lys Gln Arg Phe Leu Glu Asp Lys Leu Arg Ile Leu
145                 150                 155                 160
Arg Ala Ile Arg Phe Ala Ala Thr Leu Gly Phe Ala Leu Asp Pro Gln
                165                 170                 175
Thr Glu Gln Ala Ile Ile Lys Glu Leu Pro Ser Leu Pro Asn Ser Val
            180                 185                 190
Ala Pro Glu Arg Ile Trp Gln Glu Leu Lys Lys Met Leu Arg Thr Ala
        195                 200                 205
Pro Tyr Glu Ser Leu Gln Leu Leu Thr Lys Leu Lys Val Leu Pro Ile
    210                 215                 220
Leu Phe Pro Glu Leu Lys Val Ser Ser Ser Gly Phe Leu Arg Ser Ala
225                 230                 235                 240
Ile Ala Phe Ala Gln Lys Ile His Asp Ser Gln Ile Pro Glu Ile Ala
                245                 250                 255
Leu Leu Leu Pro Leu Phe Arg Glu Val Asp Lys Glu Lys Ala Leu Glu
            260                 265                 270
Ala Phe Ser Arg Leu Arg Val Ser Asn Lys Glu Leu Lys Leu Leu Glu
        275                 280                 285
Asp Trp Tyr Ala Ala Leu Pro Gln Phe Leu Ser Lys Gln Asn Asp Lys
    290                 295                 300
Phe Phe Trp Ala His Phe Phe Ala Ser Glu Thr Ser Ser Leu Leu Leu
305                 310                 315                 320
Ser Leu Phe Leu Ser Met Gln Arg Ser Pro Asp Glu Gln Glu Leu Phe
                325                 330                 335
Ile Ala Arg Ile His Asp Leu Lys Thr Arg Leu Ala Ala Phe Ile Glu
            340                 345                 350
Arg Ile Gln Ser Gly Ala Pro Leu Val Ser Ala Gln Asp Leu Ile Ala
        355                 360                 365
Lys Gly Ile Thr Pro Gly Arg Leu Leu Gly Glu Leu Leu Arg Glu Ala
    370                 375                 380
Glu Ala Leu Ser Ile Glu His Glu Cys Ser Asp Lys Glu Lys Ile Leu
385                 390                 395                 400
Ser Leu Leu Lys Ser Lys Gly Phe Trp Lys
                405                 410
```

<210>709
<211>493
<212>PRT
<213>Chlamydia trachomatis
<400>709

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Ser Leu Phe Met Arg Ile Ala Ile Leu Gly Arg Pro Asn Val Gly Lys
  1               5                  10                  15
Ser Ser Leu Phe Asn Arg Leu Cys Arg Arg Ser Leu Ala Ile Val Asn
            20                  25                  30
Ser Gln Glu Gly Thr Thr Arg Asp Arg Leu Tyr Gly Glu Ile Arg Ala
        35                  40                  45
Trp Asp Ser Ile Ile His Val Ile Asp Thr Gly Gly Val Asp Gln Glu
    50                  55                  60
```

```
Ser Thr Asp Arg Phe Gln Lys Gln Ile His Gln Gln Ala Leu Ala Ala
 65                  70                  75                  80
Ala Glu Glu Ala Ser Val Leu Leu Leu Val Val Asp Ile Arg Cys Gly
                85                  90                  95
Ile Thr Lys Gln Asp Glu Glu Leu Ala Lys Arg Leu Leu Pro Leu Lys
            100                 105                 110
Lys Pro Leu Ile Leu Val Met Asn Lys Ala Asp Ser Gln Gln Asp Leu
        115                 120                 125
Gln Arg Ile His Glu Phe Tyr Gly Leu Gly Ile Ser Asp Met Ile Ala
    130                 135                 140
Thr Ser Ala Ser His Asp Lys His Ile Asp Leu Leu Leu Glu Arg Ile
145                 150                 155                 160
Arg Gln Ile Ala Gln Ile Pro Val Pro Ser Val Glu Glu Gln Asp Val
                165                 170                 175
Val Gln Glu Asp Glu Leu Pro Ser Glu Glu Ala Ala Ile Ser Leu His
            180                 185                 190
Ala Phe Ala Asp Glu Thr Leu Phe Glu Asn Glu Ser Leu Ser Gln Glu
        195                 200                 205
Glu Ala Ser Phe Leu Glu Glu Leu Val Ala Gln Thr Ala Thr Pro Ala
    210                 215                 220
Pro Val Asp Arg Pro Leu Lys Val Ala Leu Ile Gly His Pro Asn Val
225                 230                 235                 240
Gly Lys Ser Ser Ile Ile Asn Ala Leu Leu Lys Glu Glu Arg Cys Ile
                245                 250                 255
Thr Asp Asn Ser Pro Gly Thr Thr Arg Asp Asn Ile Asp Val Ala Tyr
            260                 265                 270
Thr His Asn Asn Lys Glu Tyr Val Phe Ile Asp Thr Ala Gly Leu Arg
        275                 280                 285
Lys Thr Lys Ser Ile Lys Asn Ser Val Glu Trp Met Ser Ser Ser Arg
    290                 295                 300
Thr Glu Lys Ala Ile Ser Arg Thr Asp Ile Cys Leu Leu Val Ile Asp
305                 310                 315                 320
Ala Thr Gln Gln Leu Ser Tyr Gln Asp Lys Arg Ile Leu Ser Met Ile
                325                 330                 335
Ala Arg Tyr Lys Lys Pro His Val Ile Leu Val Asn Lys Trp Asp Leu
            340                 345                 350
Met Phe Gly Val Arg Met Glu His Tyr Val Gln Asp Leu Arg Lys Met
        355                 360                 365
Asp Pro Tyr Ile Gly Gln Ala His Ile Leu Cys Ile Ser Ala Lys Gln
    370                 375                 380
Arg Arg Asn Leu Leu Gln Ile Phe Ser Ala Ile Asp Asp Ile Tyr Thr
385                 390                 395                 400
Ile Ala Thr Thr Lys Leu Ser Thr Ser Leu Val Asn Lys Val Leu Ala
                405                 410                 415
Ser Ala Met Gln Arg His His Pro Gln Val Ile Asn Gly Lys Arg Leu
            420                 425                 430
Arg Ile Tyr Tyr Ala Ile His Lys Thr Thr Thr Pro Phe Thr Phe Leu
        435                 440                 445
Leu Phe Ile Asn Ser Asn Ser Leu Leu Thr Lys Pro Tyr Glu Leu Tyr
    450                 455                 460
Leu Lys Asn Thr Leu Lys Ala Ala Phe Asn Leu Tyr Arg Val Pro Phe
465                 470                 475                 480
Asp Leu Glu Tyr Lys Ala Lys Pro Ala Arg Lys Ser Asn
                485                 490
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<210>710
<211>198
<212>PRT
<213>Chlamydia trachomatis
<400>710

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Lys Asn Lys Asn Leu Leu Leu Glu Ile Ile Lys Thr Lys Ile Ser Tyr
  1               5                  10                  15
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Phe Leu Glu Ile Leu Ile Pro Met His Tyr Glu Pro Tyr Asp Glu Phe
20 25 30
Glu Pro Asp Asn Glu Leu Asp His Leu Ile Cys Glu Ser Asp Lys Thr
35 40 45
Lys Pro Leu Asp Ala Tyr His Asp Thr Gly Val Tyr Ile Glu Glu Asp
50 55 60
Asp Arg Glu Asn Gly Asp Leu Leu Ile Val Leu Gly Lys Ser Ile Leu
65 70 75 80
Asn Gly Ala Ile Arg Gln Phe Tyr Ile Ser Asp His Asn Tyr Ala Tyr
85 90 95
Thr Arg Gly Tyr Tyr Gln Gly Cys Trp Glu Gly Trp Phe Asn Ile Pro
100 105 110
Pro Lys Lys Ile Thr Thr Ala Glu Tyr Asp Cys Asp Gln Leu Leu Gln
115 120 125
Pro Asp Leu Leu Leu Thr Thr Asn Val Glu Lys Leu Ile His Ala Pro
130 135 140
Glu Asp Phe Pro Ala Gln Asn Ala Asn Leu Asp Asn Ile Ile Ile Cys
145 150 155 160
Met Thr Ala Leu Asn Gly Glu His Arg Val Gln Phe Leu Ile Gly Asp
165 170 175
Asn His Arg Ser Phe Trp Ile Arg His His Asp Gly Glu Ser Trp Ser
180 185 190
Lys Trp Ser Thr Phe Ile
195

<210>711
<211>152
<212>PRT
<213>Chlamydia trachomatis
<400>711
Cys Arg Cys Gly Thr Asp Tyr Ile Gly Asp Leu Leu Ile Glu Ala Phe
1 5 10 15
Asp Val Lys Phe Ser Ala Met Leu Ala Glu Phe Thr Glu Ile Ile Gly
20 25 30
Ser Ala Ala Asn Ala Gln Gly Ile Cys Asn Asp Ile Leu Arg Ser Val
35 40 45
Ile Ile Ser His Ile Asp Glu Glu Trp Lys Val His Leu Val Asp Met
50 55 60
Asp Leu Leu Arg Ser Glu Val Gly Leu Arg Ser Val Gly Gln Lys Asp
65 70 75 80
Pro Leu Ile Glu Phe Lys Asn Glu Ser Phe Leu Leu Phe Glu Gly Leu
85 90 95
Ile Arg Asp Ile Arg Ile Ala Ile Val Lys His Leu Phe Ala Leu Glu
100 105 110
Leu Ser Leu Thr Arg Ser Asp Arg Pro Asp Asn Ala Ile Pro Thr Val
115 120 125
Ala Thr Ala Phe His Asn His Asp Asn Phe Arg Pro Met Glu Leu Thr
130 135 140
Ile Val Gly Glu Glu Glu Glu Ser
145 150

<210>712
<211>128
<212>PRT
<213>Chlamydia trachomatis
<400>712
Phe Ala Ile Ser Gly Pro Pro Glu Gly Glu Ala Met Ser Asp Pro Met
1 5 10 15
Phe Asp Arg Leu Ile Glu Thr Ala Gln Lys Arg Val Glu Gly Arg Asn
20 25 30
Tyr Thr Ile Arg Lys His Thr Leu Glu Tyr Asp Asp Val Met Asn Lys
35 40 45
Gln Arg Gln Thr Ile Tyr Ala Phe Arg Asn Asp Val Leu His Ala Glu

```
     50                  55                  60
Asp Leu Phe Val Val Ala Lys Glu Gln Ile Glu His Val Ala Leu Ala
 65                  70                  75                  80
Leu Ala Phe Leu Ile Leu Lys Asp Ala His Ala Asp His Cys Ser Leu
                 85                  90                  95
Pro Lys Ile Glu Glu Trp Leu Ser Tyr Ser Phe Pro Val Lys Leu Asp
            100                 105                 110
Asp Gln Glu Ile Arg Arg Leu Gly Asp Val Asp Ala Val Gln Thr Thr
        115                 120                 125
<210>713
<211>536
<212>PRT
<213>Chlamydia trachomatis
<400>713
Ser Ala Gly Ser Pro Pro Glu Lys Arg Lys Ala Ile Tyr Gln Cys Asp
  1               5                  10                  15
Val Val Tyr Gly Thr Ala Ser Gly Phe Gly Phe Asp Tyr Leu Arg Asp
            20                  25                  30
Asn Ser Ile Ala Thr Arg Lys Glu Glu Gln Val Gly Arg Gly Phe Tyr
        35                  40                  45
Phe Ala Ile Ile Asp Glu Ile Asp Ser Val Leu Ile Asp Glu Ala Arg
     50                  55                  60
Thr Pro Leu Ile Ile Ser Gly Pro Gly Glu Lys His Asn Pro Val Tyr
 65                  70                  75                  80
Phe Glu Leu Lys Asp Arg Val Ala Glu Leu Val Tyr Phe Gln Arg Glu
                 85                  90                  95
Met Cys Asn His Ile Ala Ile Glu Ala Arg Lys Val Leu Asp Pro Phe
            100                 105                 110
Leu Gly Thr Asp Val Leu Pro Lys Asp Lys Lys Val Met Glu Ala Ile
        115                 120                 125
Ser Glu Ala Cys Arg Ala Leu Trp Leu Val Ser Lys Gly Met Pro Leu
    130                 135                 140
Asn Arg Val Leu Arg Arg Val Arg Glu His Pro Asp Leu Arg Ala Met
145                 150                 155                 160
Ile Asp Lys Trp Asp Val Phe Tyr His Ala Glu Gln Asn Lys Glu Glu
                165                 170                 175
Cys Leu Glu Lys Leu Ser Ser Leu Tyr Ile Val Val Asp Glu His Asn
            180                 185                 190
Asn Asp Phe Glu Leu Thr Asp Lys Gly Met Leu Gln Trp Ile Glu Lys
        195                 200                 205
Ile Gly Gly Ala Ala Glu Asp Phe Val Met Met Asp Met Gly His Glu
    210                 215                 220
Tyr Ala Leu Ile Glu Glu Asp Ala Thr Leu Ser Pro Ala Asp Lys Leu
225                 230                 235                 240
Asn Arg Lys Ile Ala Val Ser Glu Lys Asp Thr Gln Arg Lys Ala Arg
                245                 250                 255
Ala His Gly Leu Arg Gln Leu Leu Arg Ala His Leu Leu Met Glu Lys
            260                 265                 270
Asp Ile Asp Tyr Ile Val Arg Asp Asp Gln Ile Val Ile Ile Asp Glu
        275                 280                 285
His Thr Gly Arg Pro Gln Pro Gly Arg Arg Phe Ser Glu Gly Leu His
    290                 295                 300
Gln Ala Ile Glu Ala Lys Glu His Val Thr Ile Arg Lys Glu Ser Gln
305                 310                 315                 320
Thr Phe Ala Thr Val Thr Leu Gln Asn Phe Phe Arg Leu Tyr Glu Lys
                325                 330                 335
Leu Ala Gly Met Thr Gly Thr Ala Ile Thr Glu Ser Arg Glu Phe Lys
            340                 345                 350
Glu Ile Tyr Ser Leu Tyr Val Leu Gln Val Pro Thr Phe Lys Pro Cys
        355                 360                 365
Leu Arg Ile Asp His Asn Asp Ala Phe Tyr Met Thr Glu Arg Glu Lys
```

```
    370                 375                 380
Tyr Gln Ala Ile Val Ala Glu Ile Ile Ser Ala His Arg Ser Gly Lys
385                 390                 395                 400
Pro Ile Leu Ile Gly Thr Glu Ser Val Glu Val Ser Glu Lys Leu Ser
                405                 410                 415
Arg Ile Leu Arg Gln Asn Arg Ile Asn His Thr Val Leu Asn Ala Lys
            420                 425                 430
Asn His Ala Gln Glu Ala Glu Ile Ile Ala Gly Ala Gly Lys Val Gly
        435                 440                 445
Ala Val Thr Val Ala Thr Asn Met Ala Gly Arg Gly Thr Asp Ile Lys
    450                 455                 460
Leu Asp Glu Glu Ala Val Ala Ala Gly Gly Leu Tyr Val Ile Gly Thr
465                 470                 475                 480
Ser Arg His Gln Ser Arg Arg Ile Asp Arg Gln Leu Arg Gly Arg Cys
                485                 490                 495
Ala Arg Leu Gly Asp Pro Gly Ala Ala Lys Phe Phe Leu Ser Phe Glu
            500                 505                 510
Asp Arg Leu Met Arg Leu Phe Ala Ser Pro Lys Leu Asn Thr Leu Ile
        515                 520                 525
Arg His Phe Arg Ser Ser Arg Arg
    530                 535
<210>714
<211>107
<212>PRT
<213>Chlamydia trachomatis
<400>714
Glu Arg Met Pro Ala Phe Gly Arg Asn Ser Gly Gly Gly Ile Trp Val
  1                 5                  10                  15
Ser Ser Ala Val Gly Tyr Gly Ser Leu Arg Cys Ala Asp Ser Gly Xaa
             20                  25                  30
Ile Ala Met His Lys Gly Phe Ile Thr Glu Met Gln Thr Gly Glu Gly
         35                  40                  45
Lys Thr Leu Thr Ala Val Met Pro Leu Tyr Leu Asn Ala Leu Ser Gly
     50                  55                  60
Lys Pro Val His Leu Val Thr Val Asn Asp Tyr Leu Ala Gln Arg Asp
 65                  70                  75                  80
Cys Glu Trp Val Gly Ser Val Leu Arg Trp Leu Gly Leu Thr Thr Gly
                 85                  90                  95
Val Leu Val Cys Arg Glu Pro Thr Arg Glu Ala
            100                 105
<210>715
<211>121
<212>PRT
<213>Chlamydia trachomatis
<400>715
Met Met Asp Phe Leu Lys Arg Phe Phe Gly Ser Ser Gln Glu Arg Ile
  1                 5                  10                  15
Leu Lys Arg Phe Gln Lys Leu Val Glu Glu Val Asn Ala Cys Asp Glu
             20                  25                  30
Lys Phe Ser Ser Leu Ser Asp Asp Glu Leu Arg Glu Lys Thr Pro Gln
         35                  40                  45
Leu Lys Gln Arg Tyr Gln Asp Gly Glu Ser Leu Asp Lys Leu Leu Pro
     50                  55                  60
Glu Ala Tyr Gly Val Val Lys Asn Val Cys Arg Arg Leu Ala Gly Thr
 65                  70                  75                  80
Pro Val Glu Val Ser Gly Tyr His Gln Gln Trp Asp Met Val Pro Tyr
                 85                  90                  95
Asp Val Gln Ile Leu Gly Xaa Ser Leu Cys Ile Lys Ala Leu Ser Pro
            100                 105                 110
Arg Cys Lys Pro Gly Lys Glu Arg His
        115                 120
```

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<210>716
<211>469
<212>PRT
<213>Chlamydia trachomatis
<400>716

```
Glu Asn Val Ser Leu His Lys Asn Lys Asp Leu Lys Arg Phe Phe Trp
  1               5                  10                  15
Tyr Cys Lys Arg Glu Lys Thr Gln Lys Leu Cys Ile Met Trp Leu Ile
             20                  25                  30
Val Ala Trp Thr Leu Leu Ala Cys Leu Ala Met Ala Leu Val Phe Lys
         35                  40                  45
Ala Tyr Arg His Val Ile Ser Phe Arg Ser Tyr Val Asn Gln Val Met
     50                  55                  60
Arg Asp Val Arg Leu Ser Val Asp Leu Lys Glu Trp Ala Val Ala Glu
 65                  70                  75                  80
Met Arg Leu Ala Pro Ile Leu Lys Lys Arg Gln Tyr Arg Arg Lys Tyr
                 85                  90                  95
Leu Phe Glu Tyr Ile Arg Ile Leu Arg Glu Leu Glu Arg Phe Glu Glu
            100                 105                 110
Ala Glu Lys Leu Leu Gly Glu Ala Lys Lys Leu Lys Leu Ala Gly Ala
        115                 120                 125
His Phe Phe Leu Glu Val Ala His Lys Ala Phe Arg His Gly Ala Tyr
    130                 135                 140
Lys Glu Ala Ala His Ala Phe Ser Leu Leu Ser Ala Glu Leu Met Gly
145                 150                 155                 160
Glu Arg Glu Val Ala Arg Tyr Thr Ile Ser Leu Val Tyr Leu Gly Glu
                165                 170                 175
Val Asp Ala Ala Cys Arg Ile Ile Glu Pro Trp Ile Gly Pro Leu Ala
            180                 185                 190
His Gln Glu Val Phe Ile Ser Val Gly His Ile Tyr Phe Ala Thr Lys
        195                 200                 205
Arg Tyr Ala Asp Ala Ile Asp Phe Tyr Arg Arg Ala Arg Ser Leu Gly
    210                 215                 220
Ser Cys Pro Ile Asp Val Leu Tyr Asn Leu Ala His Ser Leu Arg Ile
225                 230                 235                 240
Cys Gly Gln Tyr Val Asp Ala Gly Met Leu Phe Arg Glu Leu Leu Gly
                245                 250                 255
Asp Pro Val Tyr Lys Asp Glu Ala Met Phe Asn Ile Gly Leu Cys Glu
            260                 265                 270
Gln Lys Leu Gly Asn Ser Lys Lys Ala Leu Leu Ile Tyr Gln Asn Ser
        275                 280                 285
Glu Leu Trp Val Arg Gly Asp Ala Leu Met Met Arg Tyr Ala Ala Leu
    290                 295                 300
Ala Ala Ala Asp Gln Gln Asp Tyr Gln Leu Ala Glu His Cys Trp Thr
305                 310                 315                 320
Leu Ala Phe Arg Cys Gln Ser Tyr Ala Asp Asp Trp Asn Cys Cys Val
                325                 330                 335
His Tyr Gly Leu Ala Leu Cys His Leu Lys Lys Tyr Ala Glu Ala Glu
            340                 345                 350
Lys Val Tyr Leu Arg Val Ile Gln Lys Thr Pro Asp Cys Leu Val Ala
        355                 360                 365
Cys Lys Ala Leu Ala Trp Leu Ala Gly Val Gly His Ala Thr Met Ile
    370                 375                 380
Ser Ala Arg Glu Gly Ile Ala Tyr Ala Lys Arg Ala Leu Gln Ile Lys
385                 390                 395                 400
Arg Ser Pro Glu Val Leu Glu Leu Leu Ser Ala Cys Glu Ala Arg Glu
                405                 410                 415
Gly Asn Phe Asp Val Ala Tyr Asp Ile Gln Ala Ile Leu Ala Glu Arg
            420                 425                 430
Asp Thr Thr Ala Lys Glu Arg Glu Arg Arg Ser Gln Ile Leu Lys Asn
        435                 440                 445
```

```
Leu Arg Gln Lys Leu Pro Ile Asp Gln Gln His Ile Val Glu Val Ser
    450                 455                 460
Leu Leu Leu Ala Ala
465
<210>717
<211>301
<212>PRT
<213>Chlamydia trachomatis
<400>717
Met Ala Ala Arg Glu Met Leu Tyr Val Asn Arg Glu Thr Gly Lys Val
  1               5                  10                  15
Glu Gln Glu Arg Ile Ile Cys Ser Ser Leu Val Lys Phe Phe Ile Glu
             20                  25                  30
Thr Arg Ile Gly Arg Ala Leu Tyr Ser Val Leu Cys Lys Asn Ser Leu
         35                  40                  45
Phe Ser Arg Ile Val Gly Trp Cys Gln Arg Leu Arg Val Thr Arg Tyr
     50                  55                  60
Phe Ile Lys Pro Phe Val Thr Lys Tyr Arg Ile Cys Ile Glu Glu Ser
 65                  70                  75                  80
Ala Ser Pro Leu His Asp Tyr Ala Ser Phe Asn Asp Phe Phe Val Arg
                 85                  90                  95
Lys Leu Lys Pro Asp Ala Arg Pro Ile Cys Gln Gly Glu Asp Ile Cys
            100                 105                 110
Val Thr Pro Ala Asp Gly Ala Tyr Leu Val Phe Pro Ser Met Ala Asp
        115                 120                 125
Leu Ser Leu Phe Thr Ile Lys Asn Lys Pro Phe Ser Leu Glu Ser Phe
    130                 135                 140
Leu Gly Asp Pro Gln Leu Ala His Gln Tyr Ala Gln Gly Ser Met Ala
145                 150                 155                 160
Ile Ala Arg Leu Ala Pro Phe Asp Tyr His Arg Phe His Phe Pro Ile
                165                 170                 175
Ala Gly Ile Ala Glu Ala Pro Arg Arg Ile Asn Gly His Leu Phe Ser
            180                 185                 190
Ile His Pro Leu Met Leu Lys Arg Asn Phe Glu Val Phe Thr Glu Asn
        195                 200                 205
Lys Arg Glu Ile Thr Ile Ile Thr Ser Lys Glu Phe Gly Glu Val Ala
    210                 215                 220
Tyr Val Glu Val Gly Ala Leu Asn Val Gly Ser Ile His Gln Thr Phe
225                 230                 235                 240
Ser Pro Gly Ser Tyr Val Lys Lys Gly Ala Glu Lys Gly Phe Phe Ala
                245                 250                 255
Phe Gly Gly Ser Thr Val Val Leu Leu Phe Gln Pro Gln Arg Ile Ile
            260                 265                 270
Phe Asp Ala Asp Leu Val Gly Tyr Ser Ala Gln Gly Leu Glu Thr Arg
        275                 280                 285
Cys Arg Met Gly Gln Ser Leu Gly Lys Arg Phe Ser Ser
    290                 295                 300
<210>718
<211>444
<212>PRT
<213>Chlamydia trachomatis
<400>718
Met Leu Arg Asn Asp Thr Ile Thr Ala Ile Ala Thr Pro Pro Gly Glu
  1               5                  10                  15
Gly Ser Ile Ala Ile Val Arg Val Ser Gly Pro Asp Ala Ile Ser Ile
             20                  25                  30
Ser Asp Arg Ile Phe Ser Gly Asn Ile Ala Gly Tyr Ala Ser His Thr
         35                  40                  45
Ala His Leu Gly Thr Val Ser His Asn Ala Val Cys Ile Asp Gln Ala
     50                  55                  60
Leu Val Leu Val Met Arg Ala Pro Arg Ser Phe Thr Gly Glu Asp Ile
```

```
 65                  70                  75                  80
Val Glu Phe Gln Cys His Gly Gly Tyr Phe Ala Cys Ser Gln Ile Val
                85                  90                  95
Asn Ala Leu Leu Ala Glu Gly Ala Arg Ala Ala Leu Pro Gly Glu Phe
            100                 105                 110
Ser Gln Arg Ala Phe Leu Asn Gly Lys Ile Asp Leu Ile Gln Ala Glu
        115                 120                 125
Ala Ile Gln Gln Leu Ile Ala Ala Asp Asn Ile Asp Ala Phe Arg Ile
    130                 135                 140
Ala Gln Asn Gln Phe Gln Gly His Thr Ser Gln Ala Ile Ser Ser Ile
145                 150                 155                 160
Ser Ser Leu Ile Ile Glu Ala Leu Ala Tyr Ile Glu Val Leu Ala Asp
                165                 170                 175
Phe Pro Glu Glu Asp Ile Glu Thr Glu Asp Ser Leu Pro Lys His Arg
            180                 185                 190
Ile Met Glu Ala Leu Ser Ile Thr Asp Glu Leu Leu Ser Ser Phe Asp
        195                 200                 205
Glu Gly Gln Arg Leu Ala Gln Gly Thr Ser Ile Val Leu Ala Gly Leu
    210                 215                 220
Pro Asn Ala Gly Lys Ser Ser Ile Leu Asn Ala Leu Thr Gln Lys Asn
225                 230                 235                 240
Arg Ala Ile Val Thr Asp Ile Pro Gly Thr Thr Arg Asp Ile Leu Glu
                245                 250                 255
Glu Asn Trp Val Leu Gln Gly Lys Asn Leu Arg Leu Ile Asp Ser Ala
            260                 265                 270
Gly Leu Arg Glu Thr Glu Asn Leu Val Glu Lys Glu Gly Ile Ala Arg
        275                 280                 285
Ala Arg Glu Ala Met Ser Gln Ala Glu Gly Ile Leu Trp Val Val Asp
    290                 295                 300
Ala Ser Gln Pro Leu Pro Glu Phe Pro Thr Ile Leu Tyr Gln Lys Pro
305                 310                 315                 320
Thr Ile Leu Leu Trp Asn Lys Cys Asp Ile Val Ser Pro Pro Gln Ile
                325                 330                 335
Glu Val Pro Phe Gln Gln Ile Ser Val Ser Ala Lys Thr Gly Glu Gly
            340                 345                 350
Leu Leu Glu Leu Lys Gln Ala Leu Gln Lys Trp Leu Asn Thr Thr Gln
        355                 360                 365
Leu Gly Lys Ser Ser Lys Ile Phe Leu Val Ser Ala Arg His His Ser
    370                 375                 380
Leu Leu His Ser Val Tyr Thr Cys Leu Thr Ala Ala Leu Asn Gly Phe
385                 390                 395                 400
Thr Glu His Leu Pro Asn Glu Cys Ile Ala Leu Asp Leu Arg Gln Ala
                405                 410                 415
Leu His Ser Ile Gly Asn Leu Ser Gly Ser Glu Val Thr Glu Asn Val
            420                 425                 430
Leu Gly Glu Ile Phe Ser Lys Phe Cys Ile Gly Lys
        435                 440
```

<210>719
<211>224
<212>PRT
<213>Chlamydia trachomatis
<400>719

```
Pro Leu Met Lys Ser Leu Asn Val Gln Ala Lys Arg Ala Phe Ile Ile
  1               5                  10                  15
Ser Thr Leu Asn Arg Leu Phe Pro Asn Pro Ala Pro Ser Leu Thr Gly
            20                  25                  30
Trp Gln Thr Pro Phe Gln Leu Leu Ile Ala Ile Leu Leu Ser Gly Asn
        35                  40                  45
Ser Thr Asp Lys Ala Val Asn Ser Val Thr Pro Ser Leu Phe Ala Lys
    50                  55                  60
Ala Pro Asp Ala Gln Ser Met Ser Met Leu Ala Pro Ser Glu Ile Tyr
```

```
 65                  70                  75                  80
Ser Leu Ile Ala Pro Cys Gly Leu Gly Glu Arg Lys Ala Ala Tyr Ile
                85                  90                  95
His Ala Leu Ser His Ile Leu Val Asp Arg Tyr His Gln Glu Thr Pro
            100                 105                 110
His Thr Leu Pro Glu Leu Thr Ala Leu Pro Gly Val Gly Arg Lys Thr
        115                 120                 125
Ala Ser Val Phe Leu Ser Ile Tyr Tyr Gly Glu Asn Thr Phe Pro Val
    130                 135                 140
Asp Thr His Ile Leu Arg Leu Ala His Arg Trp Gln Leu Ser Asn Glu
145                 150                 155                 160
Thr Glu Ser Phe Ser Cys Arg Lys Arg Phe Ser Thr Val Ile Trp Thr
                165                 170                 175
Lys Ala Leu Ser Glu Ile Ala Phe Thr Thr His Leu Leu Cys Lys Ser
            180                 185                 190
Val Leu Ser Ser Ala Pro Pro Gln His Arg Cys Val Ser Tyr Leu Leu
        195                 200                 205
Phe Leu Thr Asp Arg Leu Thr Ser Phe Leu Thr Glu Ser Ser Ile Ser
    210                 215                 220
<210>720
<211>194
<212>PRT
<213>Chlamydia trachomatis
<400>720
Lys Val Ser Tyr Phe Leu Asn Ala Asn Gly Leu Leu Arg Arg Ser Asn
  1               5                  10                  15
Arg Leu Pro Ile Leu Phe Tyr Arg Asp Gln Lys Gly Asn Phe Ser Ser
            20                  25                  30
Trp Asp Asp Phe Thr His Asp Val Gln Thr Gln Lys Ser Gly Arg Glu
        35                  40                  45
Thr Asp Met Pro Asp Ser Leu Arg Gly Arg Val Glu Glu Asp Ala Ala
    50                  55                  60
Ser Gln Met Ile Val Glu Val Leu Leu Ala Phe Leu Asp Asn Gln Asp
65                  70                  75                  80
Met Tyr Leu Ser Val Ser Phe Glu Ile Leu Arg Asn Phe Leu Glu Glu
                85                  90                  95
Lys Val Leu Ser Lys Arg Ser Leu Ser Pro Arg Ser His Glu Ala Ile
            100                 105                 110
Lys Lys Ile Lys Asp Leu Tyr Leu Val Ser Pro Glu Asp Phe Gln Thr
        115                 120                 125
Phe Ile Gly Gly Val Ile Thr Glu Ser Leu Phe Gln Glu Glu Asp Gln
    130                 135                 140
Leu Val Val Gly Cys Met Ile Phe Ser Gln Glu Gly Arg Glu Leu Phe
145                 150                 155                 160
Asp Ser Trp Lys Gly Ile Ser Gln Thr Tyr Pro His Asp Met Leu Tyr
                165                 170                 175
Thr Gln Ala Phe Leu Ala Glu Val Val Leu His Val Val Asn Thr Thr
            180                 185                 190
Phe Ile

<210>721
<211>171
<212>PRT
<213>Chlamydia trachomatis
<400>721
Asn Asn Thr Asp Tyr Val Lys Asn Arg Gln Lys Asp Leu Asn Pro Tyr
  1               5                  10                  15
Met Leu Leu Asp Ser Arg Phe Pro Thr Asp Tyr Tyr Leu Arg Ile Leu
            20                  25                  30
Glu Leu Val Ile Arg Asp Ala Ser Cys Lys Leu Val Tyr Asn Arg Arg
        35                  40                  45
```

```
Leu His Met Leu Glu Ala Ile Pro Leu Asp Gln Lys Leu Ser Thr Asp
     50                  55                  60
Gln Glu Gly Glu Ser Ser Ile Leu Arg Glu Val Ile Ser Glu Leu Leu
 65                  70                  75                  80
Ala His Ser Gly Glu Ser Tyr Ala Ile Ser Ala Gln Leu Leu Ala Val
                 85                  90                  95
Ile Asp Ile Tyr Leu Lys Gln Glu Gln Pro Ser Asn Ser Trp Phe Ala
            100                 105                 110
Arg Ile Phe Arg Lys Arg Glu Arg Ala Arg Lys Arg Gln Thr Ile Asn
        115                 120                 125
Lys Leu Leu Leu Leu Leu Lys Ser Ile Leu Phe Phe Glu Arg Gln Arg Pro
    130                 135                 140
Val Lys Lys Val Glu Ser Val Ala Asp Ser Ile Leu Gln Arg Ser Lys
145                 150                 155                 160
Gly Lys Phe Phe Val Leu Gly Arg Phe Tyr Thr
                165                 170
```

<210>722
<211>253
<212>PRT
<213>Chlamydia trachomatis
<400>722

```
Ala Ser Ile Trp Lys Arg Arg Val Ala Arg Arg Asn Glu Asn Tyr Asp
  1                 5                  10                  15
Val Lys Lys Ala Glu Glu Gln Gln Gly Ile Val Gln Tyr Leu Gln Asp
             20                  25                  30
Ser Lys Met Pro Ala Leu Thr Arg Ala Tyr Arg His Leu Arg Ala Phe
         35                  40                  45
Asn Ser Ala Cys Leu Arg Thr Ile Arg Glu Phe Phe Ala Thr Ile Phe
     50                  55                  60
Arg Ala Leu Arg Asp Ala Tyr Tyr Arg His Cys Thr Arg Ser Gly Ile
 65                  70                  75                  80
Asn Phe Cys Gly Ala Asp Lys Asp Ser Leu Glu Val Leu Val Ala Val
                 85                  90                  95
Gly Leu Leu Leu Arg Met Ala Thr Leu Arg Ser Phe Glu His Val Gly
            100                 105                 110
Gly Asn Tyr Glu Asp Arg Leu Val Asn Asn Asp Ala Pro Val Thr Gly
        115                 120                 125
Ala Gly Arg Thr Leu Val Tyr Asp Ala Val Asp Asp Ile Glu Ser Ile
    130                 135                 140
Leu Asn Thr Arg Thr Asn Trp Pro Gln His Val Met Ile Gly Phe Ser
145                 150                 155                 160
Arg Gly Leu Val Gln Leu Cys Ala Thr Pro Tyr Asn Ala Thr Ser Gln
                165                 170                 175
Glu Cys Phe Lys Ser Ile Val Arg Leu Glu Lys Glu Asp Pro Ser Ser
            180                 185                 190
Asp Tyr Ser Gln Ala Leu Leu Leu Ala Gly Ile Ile Asp Arg Leu Ala
        195                 200                 205
Glu Lys Ala Pro Met Ala Ala Lys Tyr Val Leu Asp Ala Leu Arg Val
    210                 215                 220
Arg Thr Ser Glu Leu Ile Gly Glu Leu Ile Ile Leu Asp Leu Leu Pro
225                 230                 235                 240
Pro Val Trp Lys Val Gly Arg Gly Xaa Tyr Ser Leu Leu
                245                 250
```

<210>723
<211>99
<212>PRT
<213>Chlamydia trachomatis
<400>723

```
Ala Leu Tyr Gly Gly Asn Ser Gly Pro Glu Gly Phe Ser Ser Ala Ser
  1                 5                  10                  15
Arg Gly Asp Glu Ile Asp Asp Val Pro Asp Ser Glu Glu Gly Glu Leu
```

```
            20                  25                  30
Glu Glu Arg Val Ser Asp His Ala Glu Ser Ile Ile Thr Glu Ser Ser
        35                  40                  45
Glu Thr Leu Phe Arg Thr Thr Ser Ser Ser Gly Val Ser Glu Asp Leu
    50                  55                  60
Gln Gln His Val Ser Leu Glu Glu Ser Pro Arg Gln Arg Gly Phe Leu
65                  70                  75                  80
Gly Arg Ile Arg Asp Ala Val Xaa Phe Tyr Leu Glu Ala Ser Cys Cys
                85                  90                  95
Thr Lys Glu
```

<210>724
<211>339
<212>PRT
<213>Chlamydia trachomatis
<400>724

```
Asn Leu Ile Lys Ile Val Gly Ile Lys Ser Tyr Cys Phe Gly Gly Gly
 1               5                  10                  15
Phe Met Ser Ile Arg Pro Thr Asn Gly Ser Gly Asn Gly Tyr Pro Ser
            20                  25                  30
Ile Asn Pro Ser Asn Asp Asn Gln Asp Gly Leu Val Gln Ser Thr Ser
        35                  40                  45
Gly Pro Asn Tyr Gly Gly His Thr Val Ser Ser Arg Gly Gly Phe Gln
    50                  55                  60
Gly Ile Cys Val Arg Ile Ala Asp Leu Phe Arg Asn Cys Phe Ser Arg
65                  70                  75                  80
Asn Arg Gly Thr Thr Thr Pro Ser Arg Pro Val Ile Thr Gln Ala Asp
                85                  90                  95
Ile Tyr His Pro Thr Ile Phe Gly Gln Gly Ala Gln Pro Ile Val Ser
            100                 105                 110
Thr Gly Asp Lys Lys Leu Asp Ser Ala Ile Ile Gln Ala Asp Leu Arg
        115                 120                 125
Ala Gln Asn Lys Gln Thr Leu Ala Thr His Ile Gln Ser Lys Leu Gly
    130                 135                 140
Ser Met Glu Gly Gln Ser Pro Gln Asp Tyr Lys Ala Gly Ala Tyr Ser
145                 150                 155                 160
Ala Leu Arg Leu Met Leu Phe Thr Pro Gly Glu Thr Thr Val Ser Ser
                165                 170                 175
Glu Arg Glu Arg Gln Ala Cys Val Thr Gly Arg Asp Leu Trp Glu Gln
            180                 185                 190
Ala Ala Gly Asp Leu Ala Thr Asn Gly Asn Thr Asp Gly Leu Met Leu
        195                 200                 205
Met Ala Asn Leu Ser Val Gly Gly Lys His Val Pro Ala Gly His Leu
    210                 215                 220
Arg Glu Tyr Met Asn Thr Val Lys Gly Thr Phe Thr Asp Glu Asn Glu
225                 230                 235                 240
Ala Thr Asp Pro Thr Val Asp Ala Ile Leu Asp Leu Ala Ala Lys Ile
                245                 250                 255
Asp Ala Thr Glu Phe Ser Ser Pro Gly Ser Gly Pro Val Ile Leu Asn
            260                 265                 270
Tyr Ile Gly Asn Cys Gly Gln Val Val Leu Glu Asn Glu Lys Met Asn
        275                 280                 285
Gln Leu Val Leu Glu Asp Gln Asn Gly Gln Asp Pro Gln Arg Val Gln
    290                 295                 300
Asp Asn Ser Lys Glu Leu Gln Lys Leu Leu Glu Asn Ala Arg Lys Thr
305                 310                 315                 320
Asp Pro Glu Leu Tyr Phe Gln Thr Leu Thr Val Ile Thr Ser Ser Val
                325                 330                 335
Phe Leu Asp
```

<210>725

<211>403
<212>PRT
<213>Chlamydia trachomatis
<400>725

```
Met Asp Lys Leu Ser Ile Arg Asp Leu Ser Leu Glu Gly Lys Lys Val
  1               5                  10                  15
Leu Val Arg Val Asp Phe Asn Val Pro Ile Lys Asp Gly Lys Ile Leu
            20                  25                  30
Asp Asp Val Arg Ile Arg Ser Ala Met Pro Thr Ile His Tyr Leu Leu
        35                  40                  45
Lys Gln Asp Ala Ala Val Ile Leu Val Ser His Leu Gly Leu Pro Lys
    50                  55                  60
Gly Gly Val Phe Glu Glu Ala Tyr Ser Leu Ala Pro Ile Val Pro Val
65                  70                  75                  80
Leu Glu Gly Tyr Leu Gly His His Val Pro Leu Ser Pro Asp Cys Ile
                85                  90                  95
Gly Glu Val Ala Arg Gln Ala Val Ala Gln Leu Ser Pro Gly Arg Val
            100                 105                 110
Leu Leu Leu Glu Asn Val Arg Phe His Lys Gly Glu Glu His Pro Asp
        115                 120                 125
Glu Asp Pro Ser Phe Ala Ile Glu Leu Ala Ala Tyr Ala Asp Phe Tyr
    130                 135                 140
Val Asn Asp Ala Phe Gly Thr Ser His Arg Lys His Ala Ser Val Tyr
145                 150                 155                 160
Arg Val Pro Gln Leu Phe Pro Asp Arg Ala Ala Ala Gly Phe Leu Met
                165                 170                 175
Glu Lys Glu Leu Glu Phe Leu Gly Gln His Leu Leu Val Glu Pro Lys
            180                 185                 190
Arg Pro Phe Thr Ala Ile Leu Gly Gly Ala Lys Met Ser Ser Lys Ile
        195                 200                 205
Gly Val Ile Glu Ala Leu Leu Ser Cys Val Asp His Leu Val Leu Ala
    210                 215                 220
Gly Gly Met Gly Tyr Thr Phe Leu Arg Ala Met Asn Arg Gln Val Gly
225                 230                 235                 240
Asn Ser Leu Val Glu Glu Ser Gly Ile Pro Leu Ala Lys Lys Val Leu
                245                 250                 255
Glu Lys Ala Gln Ala Leu Gly Val Lys Ile His Leu Pro Val Asp Ala
            260                 265                 270
Lys Val Ala Lys Gln Cys Asp Ser Gly Glu Asp Trp Arg Glu Leu Ser
        275                 280                 285
Ile Gln Glu Gly Ile Pro Glu Gly Leu Ala Gly Phe Asp Ile Gly Ala
    290                 295                 300
Gln Thr Ile Glu Leu Phe Ser Lys Val Ile Gln Glu Ser Ala Thr Ile
305                 310                 315                 320
Phe Trp Asn Gly Pro Val Gly Val Tyr Glu Val Pro Pro Phe Asp Gln
                325                 330                 335
Gly Ser Lys Ala Ile Ala Gln Cys Leu Ala Ser His Ser Ser Ala Val
            340                 345                 350
Thr Val Val Gly Gly Gly Asp Ala Ala Ala Val Val Ala Leu Ala Gly
        355                 360                 365
Cys Thr Ser Gln Ile Ser His Val Ser Thr Gly Gly Gly Ala Ser Leu
    370                 375                 380
Glu Phe Leu Glu Lys Gly Ser Leu Pro Gly Thr Glu Ile Leu Ser Pro
385                 390                 395                 400
Ala Gln Ser
```

<210>726
<211>121
<212>PRT
<213>Chlamydia trachomatis
<400>726

```
Gln Asn Ser Ala Arg Ser Asn Lys Lys Asn Thr Ile Glu Ser Ala Ala
 1               5                  10                  15
Pro Ala Gly Thr Val Ile Asn His Glu Ser Thr Ile Ser Leu Met Ile
            20                  25                  30
Arg Lys Leu Met Ala Arg Lys Pro Leu Ala Asn Pro Ile Pro Asn Thr
        35                  40                  45
Asp Pro Thr Thr Thr Cys Val Val Asp Ile Gly Asn Pro Lys Glu Glu
    50                  55                  60
Ala Ala Ala Ile Val Ile Ala Glu Leu Ile Pro Thr Glu Lys Pro Arg
65                  70                  75                  80
Asp Gly Val Asn Ser Val Ile Phe Phe Pro Ile Val Ser Ile Thr Arg
                85                  90                  95
Gln Pro His Val Ala Asn Pro Gln Thr Lys Pro Ser Pro Pro Lys Asp
            100                 105                 110
Ile Asn Thr Lys Arg Thr Phe Glu Glu
        115                 120
<210>727
<211>433
<212>PRT
<213>Chlamydia trachomatis
<400>727
Asp Ala Arg Arg Glu Ile Gly Met Trp Leu Leu Leu Val Cys Val Val
 1               5                  10                  15
Val Gly Gly Phe Tyr Thr Ala Trp Asn Ile Gly Ala Asn Asp Val Ala
            20                  25                  30
Asn Ala Val Gly Pro Ser Val Gly Ala Gly Ala Leu Thr Leu Lys Gln
        35                  40                  45
Ala Val Leu Ile Ala Ala Val Phe Glu Phe Leu Gly Ala Val Leu Leu
    50                  55                  60
Gly Asp Arg Val Ile Gly Thr Ile Glu Ser Gly Leu Val Ala Pro Ser
65                  70                  75                  80
Gly His Val Leu Ser Ser Gln Asp Tyr Val Phe Gly Met Ala Ala Ala
                85                  90                  95
Leu Leu Ala Thr Gly Val Trp Leu Gln Ile Ala Ser Phe Cys Gly Trp
            100                 105                 110
Pro Val Ser Thr Thr His Ala Ile Val Gly Ala Val Leu Gly Phe Gly
        115                 120                 125
Ile Ile Leu Lys Glu Asp Ala Val Ile Tyr Trp Asn Ser Cys Gly Arg
    130                 135                 140
Val Phe Val Ser Trp Leu Ala Ser Pro Ile Ile Gly Gly Tyr Phe Ala
145                 150                 155                 160
Phe Leu Ile Phe Ser Phe Ile Arg Lys Ala Ile Leu Tyr Lys Lys Asp
                165                 170                 175
Pro Val Ser Ala Met Val Arg Ile Ala Pro Phe Leu Ser Ala Ile Ile
            180                 185                 190
Ile Phe Ala Leu Gly Leu Val Leu Ile Leu Ser Gly Ala Val Ala Pro
        195                 200                 205
Val Ile Ser Phe Ser Pro Ala Leu Arg Ile Val Cys Gly Leu Ser Leu
    210                 215                 220
Phe Ala Phe Phe Phe Thr Ile Trp Gly Ile Arg Phe Phe Lys Leu Ala
225                 230                 235                 240
Ile Leu Pro Gln Glu Val Leu Pro Gly Thr Leu Leu Asp Arg Leu Leu
                245                 250                 255
Ser Lys Ser Thr Asp Tyr Gly Arg Lys Tyr Leu Ile Val Glu Arg Ile
            260                 265                 270
Phe Ala Tyr Leu Gln Met Ile Ile Ala Cys Phe Met Ser Phe Ala His
        275                 280                 285
Gly Ser Asn Asp Val Ala Asn Ala Ile Ala Pro Val Ala Gly Ile Tyr
    290                 295                 300
Arg Thr Leu Tyr Pro Gln Ser Tyr Ser Ser Lys Val Leu Leu Val Phe
305                 310                 315                 320
```

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```
Met Ser Leu Gly Gly Leu Gly Leu Val Cys Gly Leu Ala Thr Trp Gly
                325                 330                 335
Trp Arg Val Ile Asp Thr Ile Gly Lys Lys Ile Thr Glu Leu Thr Pro
            340                 345                 350
Ser Arg Gly Phe Ser Val Gly Met Ser Ser Ala Ile Thr Ile Ala Ala
        355                 360                 365
Ala Ser Ser Leu Gly Phe Pro Ile Ser Thr Thr His Val Val Val Gly
    370                 375                 380
Ser Val Leu Gly Ile Gly Phe Ala Arg Gly Leu Arg Ala Ile Asn Leu
385                 390                 395                 400
Arg Ile Ile Lys Asp Ile Val Leu Ser Trp Phe Ile Thr Val Pro Ala
                405                 410                 415
Gly Ala Ala Leu Ser Ile Val Phe Phe Leu Leu Leu Arg Ala Leu Phe
            420                 425                 430
Cys
```

<210>728
<211>164
<212>PRT
<213>Chlamydia trachomatis
<400>728

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Trp Tyr Glu Lys Arg Cys Lys Lys Thr Leu Gly Phe Gly Ser Ile Ser
  1               5                  10                  15
Ser Cys Ile Pro Arg Ser Ala Val Gly Asp His Phe Asp Thr Arg Phe
            20                  25                  30
Leu Ser Arg Xaa Ala Glu Asp Ile Ala Ile Leu Leu Thr Val Lys Glu
        35                  40                  45
Leu Gln Phe Tyr Pro Glu Phe Glu Glu Leu Phe Phe Glu Phe Leu Gln
    50                  55                  60
Lys Thr Val Gln Ser Phe Glu Ala Val Ala Lys Thr Ile Arg Glu Met
65                  70                  75                  80
Asp Arg Leu Leu Glu Ser Ser Phe Gly Gly Asn Arg Ala Asp Lys Thr
                85                  90                  95
Arg Val Leu Val Ser Glu Val Ser Asn Leu Glu His Glu Cys Asp Leu
            100                 105                 110
Leu Gln Arg Glu Leu Met Lys Val Phe Phe Ser Asp Asp Phe Ala Ile
        115                 120                 125
Gly Thr Lys Gly Phe Val Leu Trp Met Gln Ile Ile Lys Gly Ile Ser
    130                 135                 140
Gly Ile Ser Asn Asn Ser Glu Lys Leu Ala Tyr Arg Val Ser Met Thr
145                 150                 155                 160
Leu Glu Glu Lys
```

<210>729
<211>103
<212>PRT
<213>Chlamydia trachomatis
<400>729

```
Met Gln Val Leu Ala Ser Leu Phe Gly Gln Ser Pro Phe Ala Pro Leu
  1               5                  10                  15
Gln Ala His Leu Glu Leu Val Ser Ser Thr Ile Asn Val Leu Phe Pro
            20                  25                  30
Leu Phe Ser Ala Leu Lys Glu Gly Asp Tyr Glu Arg Val Gly Val Leu
        35                  40                  45
Ala Gln Leu Val Ser Ser Lys Glu Arg Gln Ala Asp Gly Met Lys Asn
    50                  55                  60
Asp Val Arg Arg His Leu Ala Ser Gly Val Phe Leu Pro Val Phe Arg
65                  70                  75                  80
Ala Ala Leu Leu Glu Ile Ile Ser Ile Gln Asp Ser Leu Ala Asp Xaa
                85                  90                  95
Leu Arg Ile Ser Gln Phe Cys
```

100

<210>730
<211>321
<212>PRT
<213>Chlamydia trachomatis
<400>730

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Met Cys Ala Gln Pro Leu Leu Gln Val Lys Asn Leu Ser Val Ser Leu
 1               5                  10                  15
Asn Arg Asn Arg Val Ser Phe Leu Ala Val Asp Ser Leu Ser Phe Asp
            20                  25                  30
Val Phe Pro Gly Gln Thr Leu Ala Ile Ile Gly Glu Ser Gly Ser Gly
        35                  40                  45
Lys Ser Ile Thr Ala Gln Ser Leu Met Gln Leu Leu Pro Glu Glu Ser
    50                  55                  60
Phe Ser Leu Ser Gly Glu Ala Leu Phe Asn Lys Glu Asn Leu Leu Asp
65                  70                  75                  80
Arg Lys Asn Thr Asn Ala Lys Val Leu Phe Gly Ser Lys Ile Ser Met
                85                  90                  95
Ile Phe Gln Asn Pro Leu Ala Ser Phe Asp Pro Val Phe Thr Ile Glu
            100                 105                 110
Gln Gln Phe His Glu Val Ile Arg Thr His Leu Gly Ile Ser Asn Lys
        115                 120                 125
Met Ala His Glu Gln Met Leu Ala Val Leu Arg Glu Thr Gly Phe Gln
    130                 135                 140
Asp Pro Glu Arg Cys Ile Lys Leu Tyr Pro His Glu Leu Ser Gly Gly
145                 150                 155                 160
Met Leu Gln Arg Met Ala Ile Ala Met Thr Leu Leu Thr Ser Pro Asp
                165                 170                 175
Leu Leu Ile Ala Asp Glu Pro Thr Thr Ala Leu Asp Val Ser Val Gln
            180                 185                 190
Tyr Gln Ile Leu Gln Leu Leu Lys Thr Leu Gln Lys Lys Thr Gly Met
        195                 200                 205
Ser Leu Leu Ile Ile Thr His Asp Met Gly Val Val Ala Glu Met Ala
    210                 215                 220
Asp Asp Val Phe Val Leu Tyr Ala Gly Arg Met Glu Glu Tyr Ser Ser
225                 230                 235                 240
Val Gln Glu Ile Phe His Ser Pro Ala His Pro Tyr Thr Glu Asp Leu
                245                 250                 255
Leu Ala Ser Arg Pro Ser Gln Tyr Arg Gln Gln Thr Phe Val Pro Ile
            260                 265                 270
Ala Gly Gln Pro Pro His Tyr Thr Arg Leu Pro Lys Gly Cys Cys Tyr
        275                 280                 285
Ser Pro Arg Cys Arg Lys Ala Gln Pro Ile Cys Phe Glu Lys Ser Pro
    290                 295                 300
Asp Ser Leu Ser Leu Asn Asp His His Arg Val Arg Cys Trp Leu His
305                 310                 315                 320
Glu
```

<210>731
<211>266
<212>PRT
<213>Chlamydia trachomatis
<400>731

```
Gly Ala Gly Tyr Met Asn Asn Pro Leu Leu Leu Gln Ala Ser Arg Leu
 1               5                  10                  15
Thr Lys His Tyr Tyr Lys Arg Ser Phe Trp Phe Gln Lys Lys Lys Val
            20                  25                  30
Ala Thr Thr Pro Leu Asn Gln Val Ser Phe Ser Leu Pro Arg His Lys
        35                  40                  45
Ile Ile Gly Leu Ile Gly Glu Ser Gly Ser Gly Lys Thr Thr Leu Ala
    50                  55                  60
```

```
Leu Gly Leu Ala Gly Leu Ile Pro Leu Thr Ser Gly His Leu Ile Leu
 65                  70                  75                  80
Asn Asp Lys Ala Ile Pro Leu His Asn Lys Lys Gly Arg Gln Tyr Leu
                85                  90                  95
Ser Ser Gln Val Arg Met Val Phe Gln Asn Pro Arg Ser Ser Leu Asn
            100                 105                 110
Pro Arg Lys Thr Ile Phe Asp Thr Leu Ser His Ser Leu Leu Tyr His
        115                 120                 125
Arg Leu Val Ser Lys Glu Glu Leu Gly Ala Thr Val Glu Lys Ala Leu
    130                 135                 140
Ser Leu Val Gly Leu Ser Thr Asp Tyr Leu Tyr Ser Tyr Pro His Gln
145                 150                 155                 160
Leu Ser Gly Gly Gln Leu Gln Arg Ile Ser Ile Ala Arg Ala Leu Leu
                165                 170                 175
Gly Ala Pro Gln Leu Ile Ile Cys Asp Glu Ile Val Ser Ala Leu Asp
            180                 185                 190
Leu Ser Met Gln Ala Gln Ile Leu Asn Met Leu Thr Ser Leu Gln Gln
        195                 200                 205
Gln Ala Arg Leu Thr Tyr Leu Phe Ile Ser His Asp Leu Ala Val Val
    210                 215                 220
Arg Ser Phe Cys Ser Glu Leu Ile Ile Met Tyr Lys Gly Gln Ile Val
225                 230                 235                 240
Glu Thr Gly Ala Thr Glu Glu Ile Phe Cys Asn Pro Gln His Ser Tyr
                245                 250                 255
Thr Arg Met Leu Leu His Ser Gln Leu Pro
            260                 265
```

<210>732
<211>284
<212>PRT
<213>Chlamydia trachomatis
<400>732

```
Glu Asn Ile Val Ser Arg Leu Pro Ser Glu Asp Thr Leu Leu Glu Val
  1               5                  10                  15
Asn Ile Glu Asp Ile Arg Val Ser Pro Phe Gln Pro Arg Arg Thr Phe
            20                  25                  30
Leu Glu Glu Asp Leu Lys Glu Leu Val Leu Ser Ile Lys Thr Val Gly
        35                  40                  45
Leu Ile His Pro Pro Val Val Arg Glu Ile Arg Asn Gly Asp Lys Val
    50                  55                  60
Leu Tyr Tyr Glu Leu Ile Ala Gly Glu Arg Arg Trp Arg Ala Leu Gln
 65                  70                  75                  80
Leu Ala Gly Tyr Lys Thr Val Pro Val Val Leu Lys Gln Val Leu Ala
                85                  90                  95
Asp Asp Met Ala Ala Glu Ala Thr Leu Ile Glu Asn Ile Gln Arg Val
            100                 105                 110
Asn Leu Asn Pro Leu Glu Met Ala Glu Ala Phe Arg Arg Leu Ile Val
        115                 120                 125
Val Phe Gly Leu Thr Gln Asp Lys Val Ala Lys Lys Val Gly Lys Lys
    130                 135                 140
Arg Ser Thr Val Ala Asn Tyr Leu Arg Leu Phe Ser Leu Pro Gln Glu
145                 150                 155                 160
Val Gln Glu Lys Met Asn Ser Gly Glu Ile Ser Leu Gly His Ala Lys
                165                 170                 175
Val Ile Leu Ser Leu Glu Asp Glu Asn Leu Arg Gln Ile Leu Ser Gln
            180                 185                 190
Lys Ile Ile Ser Cys Lys Leu Ala Val Arg Glu Ala Glu Met Glu Ala
        195                 200                 205
Lys Arg Leu Val Lys Gly Lys Gly Ala Ser Leu Lys Glu Asp Ser Ser
    210                 215                 220
Ser Gln Pro Ser Ser Arg Leu Gly Phe Cys Gln Glu Arg Leu Ala Thr
225                 230                 235                 240
```

```
Thr Phe Gly Tyr Pro Val Thr Val Lys Pro Gln Gly Arg Arg Ile Cys
                245                 250                 255
Val Ser Phe Phe Val Glu Gly Glu Glu Ala Leu Glu Ala Leu Glu Lys
            260                 265                 270
Ala Leu Thr Thr Ser Ser Ser Glu Ala Ile Leu Thr
        275                 280
<210>733
<211>407
<212>PRT
<213>Chlamydia trachomatis
<400>733
Arg Asn Arg Ile Phe Thr Met Tyr Asn Val Lys Lys Asp Phe Pro Ile
  1               5                  10                  15
Phe Lys Asn Gln Gly Asp Pro Tyr Val Tyr Leu Asp Ser Ala Ala Thr
            20                  25                  30
Thr His Lys Pro Gln Cys Val Ile Asp Ser Ile Val Asp Tyr Tyr Ser
        35                  40                  45
Ser Ser Tyr Ala Thr Val Asn Arg Ala Leu Tyr Thr Ala Ser His Asp
    50                  55                  60
Ile Thr Phe Ala His Trp Gln Val Arg Ser Lys Val Gly Ser Trp Ile
65                  70                  75                  80
Gly Ala Gln Tyr Asp Gln Glu Ile Ile Phe Thr Arg Gly Thr Thr Ser
                85                  90                  95
Ser Leu Asn Leu Leu Ala Ile Ala Ala Asn Asp Ser Trp Leu Ala Gly
            100                 105                 110
Gly Thr Val Val Ile Ser Glu Ala Glu His His Ala Asn Leu Val Ser
        115                 120                 125
Trp Glu Leu Ala Cys Gln Arg Ser Gly Ala Thr Ile Lys Lys Val Arg
    130                 135                 140
Val Asp Asp Glu Gly Met Val Asp Cys Asn His Leu Glu Gln Leu Leu
145                 150                 155                 160
Lys Gln Gly Val Gln Leu Val Ser Leu Ala His Val Ser Asn Val Ser
                165                 170                 175
Gly Ala Val Leu Pro Leu Pro Glu Ile Ala His Leu Val His Arg Tyr
            180                 185                 190
Glu Ala Leu Phe Ala Val Asp Gly Ala Gln Gly Val Gly Lys Gly Pro
        195                 200                 205
Leu Asn Leu Ser Glu Trp Gly Val Asp Phe Tyr Ala Phe Ser Gly His
    210                 215                 220
Lys Leu Tyr Ala Pro Thr Gly Ile Gly Val Leu Tyr Gly Lys Lys Glu
225                 230                 235                 240
Leu Leu Glu Ser Leu Pro Pro Val Glu Gly Gly Gly Asp Met Val Ile
                245                 250                 255
Val Tyr Asp Phe Glu Glu Leu Ser Tyr Gln Glu Pro Pro Leu Arg Phe
            260                 265                 270
Glu Ala Gly Thr Pro His Ile Ala Gly Val Leu Gly Leu Gly Ala Ala
        275                 280                 285
Ile Asp Tyr Leu Gln Ala Leu Pro Phe Ser Ile Thr Asp Arg Leu Thr
    290                 295                 300
Glu Leu Thr His Phe Leu Tyr Glu Gln Leu Leu Thr Val Pro Gly Ile
305                 310                 315                 320
Gln Ile Ile Gly Pro Lys Gln Gly Ala Ala Arg Gly Ser Leu Cys Ser
                325                 330                 335
Ile Ser Ile Pro Gly Val Gln Ala Ser Asp Leu Gly Phe Leu Leu Asp
            340                 345                 350
Gly Arg Gly Ile Ser Val Arg Ser Gly His Gln Cys Ser Gln Pro Ala
        355                 360                 365
Met Val Arg Trp Asp Leu Gly His Val Leu Arg Ala Ser Leu Gly Ile
    370                 375                 380
Tyr Asn Asp Gln Gln Asp Ile Leu Leu Phe Val Glu Ala Leu Lys Asp
385                 390                 395                 400
```

Ile Leu Arg Ala Tyr Arg Ser
405

<210>734
<211>396
<212>PRT
<213>Chlamydia trachomatis
<400>734
Thr Met Trp Gly Thr His Gln Gln Arg Gln Ile His Pro Asp Ala Arg
1 5 10 15
Leu Ala Asp Val Thr Arg Ser Val Trp Arg Gln Tyr Gln Arg Asp His
20 25 30
Val Phe Arg Glu Ala Cys Ser Trp Leu Lys Glu Met Thr Gln Glu Asp
35 40 45
Ser Trp Ile Tyr Cys Val Gly Gly Cys Glu Ile Gly Ala Ile Ser Pro
50 55 60
Glu Glu Arg Ser Ala Thr Cys Val Phe Val Asn Gly Cys Phe Ala Pro
65 70 75 80
Ser Leu Ser Val Leu Pro Ala Glu Ile Ile Val Ala Pro Leu Arg Glu
85 90 95
Ala Arg Ala Phe Phe Gln Lys His Asp Glu Glu Asp Val Val Glu Glu
100 105 110
Leu His Ser Leu Leu Arg Gly Glu Glu Gly Thr Val Ile Tyr Ile Pro
115 120 125
Glu Gly Arg Glu Leu Gln Thr Pro Leu Phe Val Gln His His Tyr Val
130 135 140
Cys Ser Glu Glu Glu Asn Lys Lys Thr Val Ser Val Pro Tyr Ile Val
145 150 155 160
Phe Val Leu Gly Lys Gly Ala Ala Ile Ser Ile Glu Met Gly Met Ser
165 170 175
Ala Leu Pro Asp Asn Val Tyr Leu Phe Gly Lys Thr Leu Cys Phe Leu
180 185 190
Gly Glu Glu Ala Glu Leu Val Leu Thr Met Lys Pro Leu Pro Lys Gly
195 200 205
Thr Glu Arg Ile Ile Trp Ala His His Val Glu Val Glu Arg Arg Gly
210 215 220
Ala Cys Ala Leu Ile Gln Asp Met Arg Ser Met Gly Lys Gly Trp Phe
225 230 235 240
Arg Asn Ser Phe Phe Leu Lys Gly Glu Ala Ala His Gly Glu Ser Leu
245 250 255
Val Lys Val Leu Gly Gly Asp Phe Leu Gly Val His Asn Thr Met His
260 265 270
His Asp Asp Arg Glu Thr Thr Ser Arg Gln Asn Ile Arg Ser Ile Leu
275 280 285
Glu Glu Gly Ser Phe Ser Phe Glu Gly Gly Ile Tyr Ile Ser Pro Arg
290 295 300
Gly Thr Leu Ser Asn Ala Tyr Gln Lys His Asp Thr Leu Leu Leu Ser
305 310 315 320
Asn Arg Ala Ser Ala Ser Thr Phe Pro Arg Leu Glu Ile Leu Thr Asp
325 330 335
Asp Val Lys Ala Ser His Gly Ala Thr Val Gly Ser Leu Asn Ala His
340 345 350
Leu Leu Thr Tyr Leu Arg Ser Arg Gly Phe Ser Leu Ile Glu Ala Lys
355 360 365
Gln Ala Leu Gln Lys Ser Phe Leu Thr Leu Asp Ile Glu Lys Pro Tyr
370 375 380
Phe Pro Lys Leu Gln Lys Gln Asp Leu Tyr His Val
385 390 395
<210>735
<211>251
<212>PRT
<213>Chlamydia trachomatis

<400>735
Val Met Tyr Met Tyr Val Val Lys Lys Lys Arg Ser Leu Glu Gly Leu
1 5 10 15
Ser Leu Ser Ile His Pro Gly Glu Leu His Ile Ile Met Gly Pro Asn
20 25 30
Gly Ala Gly Lys Ser Thr Leu Ala Lys Val Leu Ser Gly Asp Glu Ser
35 40 45
Val Glu Val Ser Ser Gly Thr Met Thr Leu Ala Gly Gln Asp Leu Leu
50 55 60
Glu Leu Ser Pro Glu Glu Arg Ala His Ala Gly Met Phe Ile Ser Phe
65 70 75 80
Gln His Pro Pro Glu Ile Pro Gly Val Asn Asn Arg Ile Phe Leu Lys
85 90 95
Glu Ala Cys Asn Ala Cys Arg Lys Ala Arg Asn Gln Val Val Leu Asp
100 105 110
Asp Ala Ala Phe Glu Glu Leu Leu Thr His Leu Glu Glu Val Tyr Gly
115 120 125
Phe Pro Gly Phe His Phe Phe Ser Asn Arg Asn Val Asn Glu Gly Phe
130 135 140
Ser Gly Gly Glu Lys Lys Lys Asn Glu Leu Trp Gln Met Leu Ala Leu
145 150 155 160
Glu Pro Lys Met Val Val Leu Asp Glu Pro Asp Ser Gly Leu Asp Val
165 170 175
Asp Ala Leu Lys Gly Ile Cys Ser Val Leu Gln Arg Tyr Arg Gln Gln
180 185 190
His Pro Glu Thr Ala Phe Cys Ile Val Thr His Asn Pro Arg Leu Gly
195 200 205
Asp Leu Leu Gln Pro Asp His Val His Ile Leu Leu Asn Gly Arg Val
210 215 220
Val Phe Ser Gly Asp Met His Leu Met Glu Glu Leu Glu Arg Lys Ser
225 230 235 240
Tyr Gln Glu Leu Leu Asp Val Val Thr Gln Glu
245 250

<210>736
<211>94
<212>PRT
<213>Chlamydia trachomatis
<400>736
Leu His Ala Gly Asp Ser Met Leu Val Gly Glu Arg Cys Gly Ala Tyr
1 5 10 15
Thr Asp Pro Gln Ile Val Val Asn Asn Gly Glu Ser Cys Val Glu His
20 25 30
Glu Ala Ala Thr Ser Lys Leu Arg Glu Asp Gln Leu Phe Tyr Leu Arg
35 40 45
Ser Arg Gly Phe Asn Thr Glu Glu Ala Val Ser Leu Val Val His Gly
50 55 60
Phe Cys Arg Glu Val Ile Glu Leu Leu Pro Leu Glu Phe Ala Arg Glu
65 70 75 80
Ala Thr Lys Leu Leu Met Ile Lys Leu Glu Asn Ser Val Gly
85 90

<210>737
<211>247
<212>PRT
<213>Chlamydia trachomatis
<400>737
Phe Ser Glu Ala Leu Phe Arg Ile Val Val Pro Ala Arg Asp Asn Phe
1 5 10 15
Phe Ala Ala Leu Asn Ser Ala Val Phe Ser Asp Gly Ser Phe Val Tyr
20 25 30
Ile Pro Lys Gly Val Cys Cys Pro Met Glu Ile Ser Thr Tyr Phe Arg
35 40 45

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Ile Asn Asp Lys Glu Ser Gly Gln Phe Glu Arg Thr Leu Ile Ile Ala
50 55 60
Glu Asp Asp Ser Tyr Val Ser Tyr Leu Glu Gly Cys Thr Ala Pro Ser
65 70 75 80
Phe Ser Ser His Gln Leu His Ala Ala Val Val Glu Leu Val Ala His
85 90 95
Asn Arg Ser Val Ile Arg Tyr Ser Thr Val Gln Asn Trp Tyr Pro Gly
100 105 110
Asp Arg Lys Thr Gly Lys Gly Gly Ile Tyr Asn Phe Val Thr Lys Arg
115 120 125
Gly Leu Cys Ala Gly Glu His Ser Lys Ile Ser Trp Ser Gln Val Glu
130 135 140
Val Gly Ala Ala Ile Thr Trp Lys Tyr Pro Ser Cys Ile Leu Lys Gly
145 150 155 160
Glu Asn Ser Val Gly Glu Phe Tyr Ser Ile Ala Leu Thr Asn Gly Lys
165 170 175
Met Gln Ala Asp Thr Gly Thr Lys Met Leu His Ile Gly Lys Gly Ser
180 185 190
Ser Ser Thr Ile Val Ser Lys Gly Ile Ser Ala Glu Glu Ser His Asn
195 200 205
Thr Phe Arg Ser Leu Val Ser Ile Ser Ser Gln Ala Val Gly Ser Cys
210 215 220
Asn Tyr Thr Gln Ala Thr Leu Cys Leu Leu Glu Ser Ala Ala Gly Leu
225 230 235 240
Ile Arg Ile His Lys Leu Leu
245

<210>738
<211>172
<212>PRT
<213>Chlamydia trachomatis
<400>738
Met Asp Ala Pro Val Asp Lys Phe Leu Gln Gln Gln Glu Tyr Pro Tyr
1 5 10 15
Gly Phe Val Thr Pro Ile Gln Ser Glu Gly Leu Ala Pro Gly Ile Ser
20 25 30
Glu Glu His Ile Glu Gln Leu Val His Leu Arg Gly Glu Pro Lys Phe
35 40 45
Leu Leu Asp Phe Arg Leu Lys Ala Phe Arg Leu Trp Gln Lys Met Glu
50 55 60
Glu Pro Thr Trp Ala Arg Leu Arg Tyr Pro Pro Ile Ala Tyr Asp Asp
65 70 75 80
Ile Val Tyr Phe Ser Ala Pro Lys Thr Lys Lys Pro Leu Gly Lys Leu
85 90 95
Glu Asp Ala Asp Pro Glu Ile Leu Glu Thr Phe Lys Lys Leu Gly Ile
100 105 110
Pro Ile Asp Glu Gln Lys Arg Leu Leu Asn Val Gln Asp Val Ala Met
115 120 125
Asp Leu Val Phe Asp Ser Val Ser Ile Gly Thr Thr Phe Lys Lys Thr
130 135 140
Leu Glu Asp Ala Gly Val Ile Phe Cys Ser Phe Arg Glu Ala Ile His
145 150 155 160
Asn Tyr Pro Asp Leu Val Lys Arg Tyr Leu Gly Ser
165 170

<210>739
<211>150
<212>PRT
<213>Chlamydia trachomatis
<400>739
Val Ile Tyr Phe Leu Glu Ile Arg Phe Trp Val Val Ala Arg Glu Gly
1 5 10 15
Phe Gly Val Phe Leu Arg Leu Val Leu Val Phe Trp Val Gly His Tyr

```
            20                  25                  30
Asn Leu Gly Leu Cys Tyr Leu Thr Leu Asp Lys Thr Arg Leu Ala Leu
        35                  40                  45
Lys Ala Phe Gln Glu Ser Leu Leu Leu Asn Ala Glu Asp Ala Asp Ala
    50                  55                  60
His Phe Tyr Ile Gly Leu Ala His Met Asp Leu Lys Gln Asn Glu Gln
65                  70                  75                  80
Ala Tyr Asp Ala Phe Tyr Arg Ala Leu Gly Ile Asn Leu Asp His Glu
                85                  90                  95
Arg Ser His Tyr Leu Leu Gly Tyr Leu His His Met Gln Gly Glu Ser
            100                 105                 110
Glu Lys Ala Glu Thr Glu Leu Ser Phe Leu Val Ala Lys Glu Ser Val
        115                 120                 125
Phe Ala Pro Leu Leu Gln Lys Thr Val Ser Ser Ser Val Phe Leu Ser
    130                 135                 140
Lys Lys Glu Thr Leu Phe
145                 150
<210>740
<211>196
<212>PRT
<213>Chlamydia trachomatis
<400>740
Gln Gly Thr Thr Met Glu Glu Ala Glu Lys His Leu Ala Lys Glu Phe
  1               5                  10                  15
Leu Cys Ser Gly Ile Asn Leu Phe Leu Ser Gly Glu Tyr Glu Gln Ala
            20                  25                  30
Glu Glu Arg Leu Lys Glu Ser Leu Glu Leu Asp Ser Glu Ala Gly Leu
        35                  40                  45
Ala Tyr Cys Tyr Leu Gly Ile Ile Ala Leu Glu Thr Gly Arg Thr Ala
    50                  55                  60
Glu Ala Leu Val Trp Cys Lys Gln Gly Leu Glu Ala Glu Pro Gly Asp
65                  70                  75                  80
Ser Tyr Leu Arg Tyr Cys Tyr Gly Val Ala Leu Asp Lys Ala Asp Arg
                85                  90                  95
Leu Glu Glu Ala Ile Gly His Tyr Gln Val Tyr Ala Glu Leu His Pro
            100                 105                 110
Glu Asp Ile Glu Cys Leu Phe Ser Leu Gly Ser Ala Tyr His Arg Leu
        115                 120                 125
Leu Arg Tyr Glu Glu Ala Ile Ala Cys Phe Asp Arg Ile Ala Gln Leu
    130                 135                 140
Asp Pro Trp Asn Pro Gln Gly Leu Tyr Asn Lys Ala Val Ile Leu Ser
145                 150                 155                 160
Asp Met Glu Asp Glu Glu Gly Ala Ile Asp Leu Leu Glu Ser Thr Val
                165                 170                 175
Lys Arg Asn Pro Leu Tyr Trp Lys Ala Trp Val Lys Leu Gly Tyr Leu
            180                 185                 190
Leu Ser Arg Asn
        195
<210>741
<211>1066
<212>PRT
<213>Chlamydia trachomatis
<400>741
Met Lys Arg Lys Arg Arg Thr Pro Leu Ser Val Pro Glu Lys Ala Asn
  1               5                  10                  15
Arg Leu Leu Val Gly Phe Ile Ile Ala Leu Ser Ile Ile Thr Leu Arg
            20                  25                  30
Ile Trp His Val Ala Val Val Gln His Glu Lys Lys Lys Glu Glu Ala
        35                  40                  45
Tyr Arg Pro Gln Arg Arg Ser Val Pro Glu His Cys Asp Arg Ala Gly
    50                  55                  60
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```
Val Cys Asp Arg Phe Gly Lys Thr Leu Ala Glu Asn Val Leu Gln Tyr
 65                  70                  75                  80
Asn Val Gly Ile Ser Tyr Arg Ala Ile Arg Asp Ile Pro Thr Arg Val
                85                  90                  95
Trp His Thr Asp Glu Gln Gly Asn Lys Arg Leu Val Pro Val Arg Lys
            100                 105                 110
Asp Tyr Ile Lys Lys Phe Ala Asp Phe Leu Ala Gln Glu Leu His Met
        115                 120                 125
Asp Arg Asp Phe Val Glu Asp Thr Ile His Ala Lys Ala Ser Val Leu
    130                 135                 140
Gly Ser Val Pro Tyr Ile Leu Gln Thr Asn Val Ser Glu Arg Thr Phe
145                 150                 155                 160
Leu Arg Leu Lys Met Leu Glu Lys Asp Trp Pro Gly Leu His Val Glu
                165                 170                 175
Ser Ser Val Arg Arg His Tyr Pro Glu Gly Arg Thr Val Ala Asp Leu
            180                 185                 190
Leu Gly Tyr Val Gly Pro Ile Ser Ala Glu Glu His Arg Lys Ile Thr
        195                 200                 205
Arg Glu Leu Gly Asn Leu Arg Glu Cys Ile Arg Ala Tyr Glu Glu Gly
    210                 215                 220
Glu Asp Pro Lys Phe Pro Ala Gly Ile Ser Ser Val Asp Gln Val Arg
225                 230                 235                 240
Lys Leu Leu His Glu Leu Glu Met His Ala Tyr Gly Leu Asn Ser Leu
                245                 250                 255
Ile Gly Lys Leu Val Val Glu Ala Phe Cys Asp Arg Lys Leu Arg Gly
            260                 265                 270
Leu Ile Gly Lys Arg Ser Met Leu Val Asp Arg Arg Gly Asn Phe Ile
        275                 280                 285
Gln Glu Met Glu Gly Ser Ser Val Gly Ser Pro Gly Arg Thr Ile Gln
    290                 295                 300
Leu Thr Ile Ser Thr Glu Leu Gln Ala Phe Ala His Glu Leu Leu Ala
305                 310                 315                 320
Glu His Glu Arg Gly Glu Cys Phe Thr Ile Ile Asp Ser Gly Val Ser
                325                 330                 335
Asn Asn Ile Leu Pro Pro Phe Phe Pro Trp Ile Lys Gly Gly Ala Ile
            340                 345                 350
Val Ala Met Asp Pro Lys Asn Gly Gln Ile Leu Ala Met Ala Ser Ser
        355                 360                 365
Pro Arg Tyr Asp Asn Asn Asp Phe Ile Asn Met Lys Asp Ser Pro Asn
    370                 375                 380
Gln Glu Glu Cys Arg Ser Ser Val Leu Arg Trp Leu Glu Asn Leu Glu
385                 390                 395                 400
Tyr Ile Gly Glu Val Phe Asp Arg Arg Val Pro Leu Arg Arg Glu Arg
                405                 410                 415
Leu Asp Pro Leu Ser Gly Lys Tyr Phe Asp Glu Glu Leu Ser Phe Ser
            420                 425                 430
Tyr Arg Ala Phe Leu Asp Phe Ile Leu Pro Asp Thr Ser Lys Val Lys
        435                 440                 445
Gln Met Leu Cys Glu Lys Gly Ser Ile Gly Leu Ser Ile Tyr Leu Gln
    450                 455                 460
Gly Thr Ile Glu Gln Leu Leu Glu Met Phe Glu Cys Glu Glu Lys Glu
465                 470                 475                 480
Cys Gly Leu Val Phe Asp Val Leu Phe Pro Lys Glu Asp Gly His Glu
                485                 490                 495
Ile Ile Gly Glu Val Thr Ser Leu Lys Arg Gln Lys Gln Phe Lys Ala
            500                 505                 510
Ile Leu Ala Glu Arg Glu Glu Glu Val Gln Ala Phe Arg Glu Arg Leu
        515                 520                 525
Gly Ser Ile Phe Ala Asp Leu Ser Ala Asn Tyr Asp Lys Ile Leu Phe
    530                 535                 540
Leu Asp Leu Leu Arg Thr Ala Val Asp Pro Glu Lys Val Ser Ile Ser
```

0 0 0 1 4 4 3 0 0 0

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545                 550                 555                 560
Leu Leu Ala Glu Ile Gly His Met Ser Val Leu Asp Phe Val Asp Tyr
                565                 570                 575
Gln Gly His Phe Ile Ala Leu Arg Lys Ser Phe Ala Lys Leu Met Glu
            580                 585                 590
Asn Ala Phe Ile Asp His Asp Phe Thr Ala Trp Arg Glu Glu His Phe
        595                 600                 605
Thr Gln Phe Ile Lys Gln Lys Arg Asp Glu Glu Leu Glu Arg Lys Gln
    610                 615                 620
Arg Tyr Pro Thr Pro Tyr Val Asp Tyr Leu Val Glu Glu Arg Ser Arg
625                 630                 635                 640
Gln Tyr Ala Leu Phe Cys Arg Glu His Met Asp Ser Phe Ile Thr Phe
                645                 650                 655
Leu Leu Ser Glu Ile Glu Pro Pro Leu Gly Asn Pro Tyr Tyr Gln Glu
            660                 665                 670
Ile Ala Cys Trp Arg Gln Glu Leu Arg Ser Gly Ala Tyr Pro Ala Leu
        675                 680                 685
Glu Trp Arg Glu His Tyr Asp Phe Leu His Lys His Leu Ser Gln Thr
    690                 695                 700
Ser Tyr Asp Leu Cys Glu Leu Phe Ala Ala Phe Arg Glu Phe Ser Glu
705                 710                 715                 720
Leu Lys Arg Pro Leu Tyr Gly Gln Tyr Pro Leu Thr Leu Thr Arg Asn
                725                 730                 735
Ile Glu Gln Ile Glu Gln Asp Leu Ile Ala Ser Phe Tyr Pro Leu Tyr
            740                 745                 750
Gly Tyr Gly His Leu Ser Ala His Ala Phe Gly Gln Ala Ala Thr Leu
        755                 760                 765
Gly Ser Ile Phe Lys Leu Val Ser Ala Tyr Ser Val Leu Val Gln His
    770                 775                 780
Leu Ser Asp Gln Glu Asp Leu Ser Lys Leu Leu Val Ile Val Asp Lys
785                 790                 795                 800
Gln Ser Leu Gly Leu Arg Ser Gly Lys Pro His Val Gly Phe Phe Lys
                805                 810                 815
Asp Gly Ser Pro Ile Ala Ser Phe Phe Lys Gly Gly Ile Leu Pro Gly
            820                 825                 830
Asn Asp Tyr Ser Gly Arg Gly Tyr Ile Asp Leu Ile Ala Ala Leu Glu
        835                 840                 845
Met Ser Ser Asn Pro Tyr Phe Ser Leu Leu Val Ser Glu Tyr Leu Ser
    850                 855                 860
Asp Pro Glu Asp Leu Cys Glu Ala Ala Lys Leu Phe Gly Phe Gly Glu
865                 870                 875                 880
Lys Thr Gly Ile Gly Leu Pro Gly Glu Tyr Ala Gly Arg Val Pro Ile
                885                 890                 895
Asp Val Ala Tyr Asn Arg Ser Gly Leu Tyr Ala Thr Ala Ile Gly Gln
            900                 905                 910
His Thr Leu Val Val Thr Pro Leu Gln Thr Ala Val Met Met Ala Thr
        915                 920                 925
Leu Val Asn Gly Gly Ile Val Tyr Gln Pro Ser Leu Ile Gln Gly Glu
    930                 935                 940
Trp Tyr Gln Gly Ser Phe Ser Pro Glu Gln Ala Lys Lys Lys Arg Glu
945                 950                 955                 960
Ile Phe Leu Pro Asp Ser Ile Val Asp Leu Phe Lys Arg Gly Met His
                965                 970                 975
Asn Val Ile Trp Gly Gln Tyr Gly Thr Thr Arg Phe Met Arg Gln Arg
            980                 985                 990
Phe Ala Pro Glu Arg Leu Ala Arg Ile Ile Gly Lys Thr Ser Thr Ala
        995                 1000                1005
Glu Val Ile Ala Arg Val Gly Leu Asp Arg Glu Arg Gly Arg Met Lys
    1010                1015                1020
Leu Lys Asp Val Trp Phe Ala Ala Val Gly Tyr Glu Asp Glu Ala Leu
1025                1030                1035                1040
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Ser His Pro Asp Ile Val Val Val Tyr Leu Arg Leu Gly Glu Phe
1045 1050 1055
Gly Arg Asp Leu Arg Leu Trp Gln Cys Val
1060 1065

<210>742
<211>394
<212>PRT
<213>Chlamydia trachomatis
<400>742
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Ala Thr Gly Asn Ala Ala
85 90 95
Ala Pro Ser Thr Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His
100 105 110
Met Gln Asp Ala Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Asn
115 120 125
Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly
130 135 140
Tyr Leu Lys Gly Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly
145 150 155 160
Asp Asn Glu Asn His Ala Thr Val Ser Asp Ser Lys Leu Val Pro Asn
165 170 175
Met Ser Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe
180 185 190
Ala Trp Ser Ala Gly Ala Arg Ala Ala Leu Trp Glu Tyr Gly Cys Ala
195 200 205
Thr Leu Gly Ala Ser Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val Glu
210 215 220
Glu Leu Asn Val Leu Cys Asn Ala Ala Glu Phe Thr Ile Asn Lys Pro
225 230 235 240
Lys Gly Tyr Val Gly Gln Glu Phe Pro Leu Asp Leu Lys Ala Gly Thr
245 250 255
Asp Gly Val Thr Gly Thr Lys Asp Ala Ser Ile Asp Tyr His Glu Trp
260 265 270
Gln Ala Ser Leu Ala Leu Ser Tyr Arg Leu Asn Met Phe Thr Pro Tyr
275 280 285
Ile Gly Val Lys Trp Ser Arg Ala Ser Phe Asp Ala Asp Thr Ile Arg
290 295 300
Ile Ala Gln Pro Lys Ser Ala Thr Thr Val Phe Asp Val Thr Thr Leu
305 310 315 320
Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala Ser Ala Glu Gly
325 330 335
Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln Leu Asn Lys Met
340 345 350
Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr Thr Ile Val Asp
355 360 365
Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu Ile Asp Glu Arg
370 375 380
Ala Ala His Val Asn Ala Gln Phe Arg Phe
385 390

<210>743
<211>282

<212>PRT
<213>Chlamydia trachomatis
<400>743

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Leu Glu Leu Pro Cys Lys Leu Thr Leu Lys Glu Leu Leu Glu Ser Gly
  1               5                  10                  15
Ala His Phe Gly His Gln Thr Ser Arg Trp Asn Pro Lys Met Lys Pro
            20                  25                  30
Phe Ile Phe Glu Glu Lys Asn Gly Leu Tyr Ile Ile Asp Leu Ala Lys
        35                  40                  45
Thr Leu Gly Gln Leu Lys Lys Ala Val Ser Cys Ile Gln Lys Thr Ile
    50                  55                  60
Asp Gln Glu Arg Ser Ile Leu Phe Val Gly Thr Lys Lys Gln Ala Lys
65                  70                  75                  80
Gln Ile Ile Arg Glu Ala Ala Ile Glu Cys Gly Glu Phe Phe Ala Ser
                85                  90                  95
Glu Arg Trp Leu Gly Gly Met Leu Thr Asn Met Ala Thr Ile Arg Asn
            100                 105                 110
Ser Val Lys Thr Leu Asn Arg Ile Glu Leu Asp Leu Glu Ala Ser Asn
        115                 120                 125
Ser Gly Leu Thr Lys Lys Glu Leu Ala Leu Leu Ala Lys Arg His Arg
    130                 135                 140
Lys Leu Leu Asn Asn Leu Glu Gly Val Arg His Met Asn Ser Leu Pro
145                 150                 155                 160
Gly Leu Leu Ile Val Ile Asp Pro Gly Tyr Glu Arg Ile Ala Val Ala
                165                 170                 175
Glu Ala Gly Lys Leu Gly Ile Pro Val Met Ala Leu Val Asp Thr Asn
            180                 185                 190
Cys Asp Pro Thr Pro Ile Asn His Val Ile Pro Cys Asn Asp Asp Ser
        195                 200                 205
Ile Lys Ser Ile Arg Leu Ile Val Asn Thr Leu Lys Asp Ala Val Ile
    210                 215                 220
Asp Ala Lys Lys Arg Leu Gly Val Glu Ile Leu Ser Pro Val Arg Pro
225                 230                 235                 240
Ala Glu Arg Pro Ala Glu Glu Ala Val Glu Glu Leu Pro Leu Pro Thr
                245                 250                 255
Gly Glu Ala Gln Asp Glu Ala Ser Ser Lys Glu Gly Val Leu Leu Trp
            260                 265                 270
Ala Asp Ile Asp Asn Cys Glu Ala Leu Lys
        275                 280
```

<210>744
<211>287
<212>PRT
<213>Chlamydia trachomatis
<400>744

```
Leu Arg Gly Ile Glu Met Ser Asp Phe Ser Met Glu Thr Leu Lys Asn
  1               5                  10                  15
Leu Arg Gln Gln Thr Gly Val Gly Leu Thr Lys Cys Lys Glu Ala Leu
            20                  25                  30
Glu His Ala Lys Gly Asn Leu Glu Asp Ala Val Val Tyr Leu Arg Lys
        35                  40                  45
Leu Gly Leu Ala Ser Ala Gly Lys Lys Glu His Arg Glu Thr Lys Glu
    50                  55                  60
Gly Val Ile Ala Ala Arg Val Asp Glu Arg Gly Ala Ala Leu Val Glu
65                  70                  75                  80
Val Asn Val Glu Thr Asp Phe Val Ala Asn Asn Ser Val Phe Arg Ala
                85                  90                  95
Phe Val Thr Ser Leu Leu Ser Asp Leu Leu Asp His Lys Leu Ser Asp
            100                 105                 110
Val Glu Ala Leu Ala Arg Val Met Ser Ser Gln Glu Pro Ser Leu Ser
        115                 120                 125
Val Glu Glu Leu Lys Ala Val Thr Met Gln Thr Val Gly Glu Asn Ile
```

```
    130                 135                 140
Arg Ile Ser Arg Ala Phe Tyr Thr Pro Val Asn Ser Gly Gln Ser Val
145                 150                 155                 160
Gly Ile Tyr Ser His Gly Asn Gly Lys Ala Val Ala Ile Val Phe Leu
                165                 170                 175
Ser Gly Ser Glu Asn Gln Glu Ala Leu Ala Lys Asp Ile Ala Met His
            180                 185                 190
Ile Val Ala Ser Gln Pro Gln Phe Leu Ser Lys Glu Ser Val Pro Gln
        195                 200                 205
Glu Ile Leu Glu Arg Glu Arg Glu Val Phe Ser Ser Gln Val Ala Gly
    210                 215                 220
Lys Pro Gln Glu Val Val Glu Lys Ile Thr Gln Gly Lys Phe Lys Ala
225                 230                 235                 240
Phe Phe Gln Glu Ala Cys Leu Leu Glu Gln Ala Phe Ile Lys Asp Pro
                245                 250                 255
Glu Val Thr Ile Gln Gly Leu Ile Asp Arg Ala Ala Lys Ala Ser Gly
            260                 265                 270
Glu Pro Leu Arg Val Glu His Phe Val Phe Trp Lys Met Gly Ala
        275                 280                 285
<210>745
<211>245
<212>PRT
<213>Chlamydia trachomatis
<400>745
Met Met Lys Lys Arg Val Lys Arg Val Leu Phe Lys Ile Ser Gly Glu
  1                 5                  10                  15
Ala Leu Ser Asp Gly Asp Ser Ser Asn Lys Ile Ser Glu Lys Arg Leu
             20                  25                  30
Ser Arg Leu Ile Ala Glu Leu Lys Val Val Arg Asn Ala Asp Val Glu
         35                  40                  45
Val Ala Val Val Ile Gly Gly Gly Asn Ile Leu Arg Gly Leu Ser Gln
     50                  55                  60
Ser Gln Ser Leu Gln Ile Asn Arg Val Ser Ala Asp Gln Met Gly Met
 65                  70                  75                  80
Leu Ala Thr Leu Ile Asn Gly Met Ala Leu Ala Asp Ala Leu Lys Thr
                 85                  90                  95
Glu Asp Val Pro Asn Leu Leu Thr Ser Thr Leu Ser Cys Pro Gln Leu
            100                 105                 110
Ala Glu Leu Tyr Asn Pro Gln Lys Ala Ser Asp Ala Leu Ser Gln Gly
        115                 120                 125
Lys Val Val Ile Cys Thr Met Gly Ala Gly Ala Pro Tyr Leu Thr Thr
    130                 135                 140
Asp Thr Gly Ala Ala Leu Arg Ala Cys Glu Leu Lys Val Asp Val Leu
145                 150                 155                 160
Leu Lys Ala Thr Met His Val Asp Gly Val Tyr Asp Gln Asp Pro Arg
                165                 170                 175
Glu Cys Ala Asp Ala Val Arg Tyr Asp His Ile Ser Tyr Arg Asp Phe
            180                 185                 190
Leu Ser Gln Gly Leu Gly Ala Ile Asp Pro Ala Ala Ile Ser Leu Cys
        195                 200                 205
Met Glu Ala Gly Ile Pro Ile Lys Met Phe Ser Phe Ala Arg His Ser
    210                 215                 220
Leu Glu Glu Ala Val Phe Asn Thr Val Gly Thr Val Ile Ser Ser Ala
225                 230                 235                 240
Glu Gly Gly Gln Leu
                245
<210>746
<211>178
<212>PRT
<213>Chlamydia trachomatis
<400>746
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```
Met Thr Leu Ala Ser Ala Glu Lys Glu Met Ala Gly Val Leu Thr Phe
  1               5                  10                  15
Phe Gln Lys Glu Thr Arg Gly Phe Arg Thr Gly Lys Ala His Pro Ala
            20                  25                  30
Leu Val Glu Thr Val Thr Val Glu Val Tyr Gly Thr Thr Met Arg Leu
        35                  40                  45
Ser Asp Ile Ala Ser Ile Ser Val Ser Asp Met Arg Gln Leu Leu Ile
    50                  55                  60
Ser Pro Tyr Asp Ala Gly Thr Val Ser Ala Ile Ser Lys Gly Ile Leu
65                  70                  75                  80
Ala Ala Asn Leu Asn Leu Gln Pro Ile Val Glu Gly Ala Thr Val Arg
                85                  90                  95
Ile Asn Val Pro Ala Tyr Gly Arg Ile Pro Thr Arg Ser Asn Lys Gln
            100                 105                 110
Leu Lys Arg Lys Ser Glu Glu Ala Lys Val Ala Ile Arg Asn Ile Arg
        115                 120                 125
Arg Thr Phe Asn Asp Arg Leu Xaa Lys Asp Asp Asn Leu Thr Glu Asp
    130                 135                 140
Ala Val Lys Ser Leu Glu Lys Lys Ile Gln Glu Leu Thr Asp Lys Phe
145                 150                 155                 160
Cys Lys Gln Ile Glu Glu Leu Ala Lys Gln Lys Glu Ala Glu Leu Ala
                165                 170                 175
Thr Val
```

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<210>747
<211>246
<212>PRT
<213>Chlamydia trachomatis
<400>747

```
Gln Gly Phe Glu Ser Pro Trp Gly His Tyr Lys Lys Lys Cys Gly Ser
  1               5                  10                  15
Leu Ala Gln Arg Leu Glu His Leu Thr Phe Asn Glu Arg Val Glu Gly
            20                  25                  30
Ser Asn Pro Ser Arg Pro Ile Ser Phe Ser Lys Arg Ser Ser Leu Leu
        35                  40                  45
Ile Lys Lys Ile Ser Phe Leu Cys Phe Phe Leu Leu Leu Leu Lys Val
    50                  55                  60
Pro Arg Cys Ile Cys Thr Ala Phe Asp Met Asp His Thr Glu Glu Ser
65                  70                  75                  80
Pro Ala Leu Cys Tyr Asn Cys Gln Gln Pro Ala Thr Ile Cys Phe Thr
                85                  90                  95
Glu Ile Ser Glu Asn Ile Thr Ser Arg Cys Tyr Val Cys Asn Ser Cys
            100                 105                 110
Pro Tyr Pro Ser Arg Tyr Tyr Asp Arg Glu Thr Ile Leu Ala Ser Pro
        115                 120                 125
Thr His Glu Ala Leu Ile Leu Glu Cys Gly Asn Cys Lys Thr Lys Trp
    130                 135                 140
Cys Ile Arg Asp Thr Asp Glu Leu Leu Leu Gly Cys His Leu Cys Tyr
145                 150                 155                 160
Arg Thr Phe Lys Ser Leu Ile Leu Ser Arg Leu Leu Arg Tyr Gln Ala
                165                 170                 175
Ile Ser Ser Tyr Thr Ser Glu Lys Ala Asn Asn Phe His Ile Gly Arg
            180                 185                 190
Gly Leu Gly Asn Ser Glu Gln Pro Ile Ile Asn Pro Ala Met Arg Leu
        195                 200                 205
Ile Ala Leu His Glu Ala Leu Gln Glu Thr Leu Arg Arg Glu Asp Tyr
    210                 215                 220
Glu Gln Ala Ala Glu Ile Arg Asp Gln Ile Asn Gln Leu Lys Asn Gln
225                 230                 235                 240
Asn Thr Thr Asp Ala Pro
                245
```

<210>748
<211>301
<212>PRT
<213>Chlamydia trachomatis
<400>748
Pro Asn Ser Phe Arg Leu Ser Lys Val Arg Lys Phe Phe Val Leu Pro
1 5 10 15
Leu Lys Asp Leu Pro Ile Trp Gln Arg Glu Cys Leu Leu Glu His Tyr
20 25 30
Leu Phe Pro Tyr His Leu Gly Ser Cys Leu Glu Gly Glu Ala Leu Ile
35 40 45
Val Asn Gln Ala Gly Thr Leu Leu Ala Gly Ile Asn Leu Arg Asp His
50 55 60
Val Val Ile His Gly Val Asp Phe Val Trp Gln Pro Glu Val Leu Leu
65 70 75 80
Gln Lys Leu Ile Asp Leu Asp Ile Arg Leu Gln Gln Ser Leu Ser Phe
85 90 95
Ala Phe Ser Ser Asp Phe Gly Phe Leu Thr Ala Asp Pro Leu Arg Cys
100 105 110
Gly Thr Ala Leu Ile Ala Arg Ala Phe Val His Val Pro Ala Leu Lys
115 120 125
Tyr Gly Asp Ala Leu Ser Glu Leu Leu Val Pro Tyr Gln Arg Glu Phe
130 135 140
Ala Ser Ser Ser Leu Leu Pro Leu Ser Gln Glu Ser Leu Gly Asp Ile
145 150 155 160
Leu Cys Leu Ser Asn Ile Cys Ser Leu Gly Leu Ser Glu Glu Gln Ile
165 170 175
Leu Ser Ser Leu Arg Leu Val Val Ser Lys Ile Leu Ser Ala Glu Lys
180 185 190
Glu Ala Arg Asn Gln Leu Val Lys Glu Asn Xaa Thr Glu Xaa Lys Asn
195 200 205
Arg Ile Leu Arg Ser Val Gly Met Leu Thr His Ser Cys Cys Leu Asp
210 215 220
Leu Gln Glu Ala Leu Asp Ala Thr Ser Trp Ile Gln Leu Gly Met Ser
225 230 235 240
Met Gln Trp Ile Glu Asp Ser Glu Asn His Pro Leu Trp Asn Pro Leu
245 250 255
Phe Trp Asp Leu Arg Arg Gly His Leu Ala Leu Tyr Asn Gln Asp Thr
260 265 270
Ala Asn Arg Ser Ile Glu Lys Glu Val Ile Ala Gln Ile Arg Ala Lys
275 280 285
Ala Thr Lys Pro Gln Ala Glu Arg Leu Ile Ile Arg Ile
290 295 300
<210>749
<211>666
<212>PRT
<213>Chlamydia trachomatis
<400>749
Arg Val Arg Ile Leu Lys Lys Ser Asp Asn Thr Val Asn Phe Glu Asp
1 5 10 15
Ile Ser Ile Leu Glu Leu Leu Gln Phe Val Ser Lys Ile Ser Gly Thr
20 25 30
Asn Phe Val Phe Asp Ser Asn Asp Leu Gln Phe Asn Val Thr Ile Val
35 40 45
Ser His Asp Pro Thr Ser Val Asp Asp Leu Ala Thr Ile Leu Leu Gln
50 55 60
Val Leu Lys Met His Asp Leu Lys Val Val Glu Gln Gly Asn Asn Val
65 70 75 80
Leu Ile Tyr Arg Asn Pro Lys Leu Ser Lys Leu Ser Thr Val Val Thr
85 90 95
Asp Gly Ser Ala Lys Asp Thr Cys Glu Ala Val Val Val Thr Arg Val

```
                100                 105                 110
Phe Arg Leu Tyr Ser Val Ser Pro Ser Ala Ala Val Gly Ile Ile Gln
            115                 120                 125
Pro Leu Leu Ser His Asp Ala Ile Ile Ser Ala Ser Glu Ser Thr Arg
    130                 135                 140
His Ile Ile Val Ser Asp Ile Ala Gly Asn Ile Glu Lys Val Arg Glu
145                 150                 155                 160
Leu Leu Gln Ala Leu Asp Ser Pro Gly Thr Ala Ile Asp Met Ser Glu
                165                 170                 175
Tyr Asp Val Gln Phe Ala Asn Pro Ala Ala Leu Val Ser Tyr Cys Gln
            180                 185                 190
Asp Val Leu Gly Ala Met Ala Glu Glu Glu Ala Phe Gln Ile Phe Ile
        195                 200                 205
Gln Pro Gly Thr Asn Lys Ile Phe Val Ile Ser Ser Pro Arg Leu Thr
    210                 215                 220
Ala Lys Thr Ile Gln Leu Leu Glu Ser Leu Asp Ile Pro Glu Met Ala
225                 230                 235                 240
His Thr Leu Asp Asp Val Thr Ser Pro Ala Ala Ala Leu Gly Ser Ser
                245                 250                 255
Gly Ala Ala Asn Pro Lys Ser Leu Arg Phe Phe Met Tyr Lys Leu Lys
            260                 265                 270
Tyr Gln Asn Gly Ala Ala Ile Ala Gln Ala Ile Gln Asp Ile Gly Tyr
        275                 280                 285
Asn Leu Tyr Val Thr Thr Ala Met Asp Glu Asp Phe Ile Asn Thr Leu
    290                 295                 300
Asn Ser Ile Gln Trp Leu Pro Val Asn Asn Ser Ile Val Val Ile Gly
305                 310                 315                 320
Asn Gln Ala Asn Val Asp Lys Val Val Ser Leu Leu Asn Gly Leu Asp
                325                 330                 335
Leu Pro Pro Lys Gln Val Tyr Ile Glu Val Leu Ile Leu Glu Thr Ser
            340                 345                 350
Leu Glu Lys Ser Trp Asp Phe Gly Val Gln Trp Ala Ala Leu Gly Asp
        355                 360                 365
Glu Gln Gly Lys Val Ala Tyr Ala Ser Gly Leu Leu Ser Asn Thr Gly
    370                 375                 380
Leu Thr Asp Pro Leu Arg Asn Gln Ser Leu Pro Val Ala Leu Asn Pro
385                 390                 395                 400
Gly Asn Ile Ser Leu Pro Thr Pro Gly Gln Leu Ala Gly Ile Ser Asp
                405                 410                 415
Met Met Tyr Gly Ser Ser Ala Phe Gly Leu Gly Ile Ile Gly Asn Val
            420                 425                 430
Leu Ser His Asn Gly Lys Ser Tyr Leu Thr Leu Gly Gly Leu Leu Ser
        435                 440                 445
Ala Leu Asp Gln Asp Gly Asp Thr Thr Val Val Leu Asn Pro Arg Ile
    450                 455                 460
Met Ala Gln Asp Thr Gln Gln Ala Ser Phe Phe Val Gly Gln Thr Ile
465                 470                 475                 480
Pro Phe Gln Thr Thr Ser Thr Val Ile Gln Glu Thr Gly Ser Val Thr
                485                 490                 495
Gln Asn Ile Glu Tyr Glu Asp Ile Gly Val Asn Leu Val Val Thr Ser
            500                 505                 510
Thr Ile Ala Pro Asn Asn Val Val Thr Leu Gln Ile Glu Gln Thr Ile
        515                 520                 525
Ser Glu Leu His Ser Ala Gln Gly Val Leu Thr Pro Val Thr Asp Lys
    530                 535                 540
Thr Phe Ala Ala Thr Arg Leu Gln Val Pro Asp Gly Cys Phe Leu Val
545                 550                 555                 560
Met Ser Gly His Ile Arg Asp Lys Leu Thr Lys Ile Val Ser Gly Val
                565                 570                 575
Pro Leu Leu Ser Ser Leu Pro Leu Ile Lys Gly Leu Phe Ser Arg Ser
            580                 585                 590
```

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```
Ile Asp Gln Arg Gln Lys Arg Asn Ile Met Ile Phe Ile Lys Pro Lys
        595                 600                 605
Val Ile Ser Ser Phe Glu Glu Gly Thr Ala Leu Ser Asn Thr Glu Gly
    610                 615                 620
Tyr Arg Tyr Asn Trp Glu Ser Glu Arg Gly Ser Leu Glu Val Ala Pro
625                 630                 635                 640
Arg His Ala Pro Glu Cys Gln His Ile Pro Lys Val Gln Ala Glu Ser
                645                 650                 655
Asn Phe Lys Met Leu Glu Ile Glu Ala Glu
            660                 665
```

<210>750
<211>275
<212>PRT
<213>Chlamydia trachomatis
<400>750

```
Gln Lys Ser Leu Ser Leu Asn Thr Tyr Gln Leu Lys Lys Ser Pro Val
  1               5                  10                  15
Asn Ile Val Thr Ser Asn Ile Gly Ser Lys Ile Leu Arg Ile Ile Gln
            20                  25                  30
Asn Asn Lys Lys Leu Gly Leu Leu Ser Ala Leu Val Val Leu Asp Ala
        35                  40                  45
Ala Leu Leu Ser Val Asn Ser Arg Ser Gly Glu Gly Leu Ile Gly Gln
    50                  55                  60
Ser Ala Ser Leu Pro Asn Tyr His Glu Ala Glu Gln Gln Ile Ala Ala
65                  70                  75                  80
Cys Pro Lys Asn Ile Ala Lys Asn Leu Ala Lys Lys Ser Ser Pro Gly
                85                  90                  95
Ala Lys Pro Thr Val Gly Ala Pro Ser Pro Ala Arg Pro Val Ser Val
            100                 105                 110
Lys Ala Ala Pro Ala Lys Pro Gln Ala Pro Val Ala Gln Thr Arg His
        115                 120                 125
Phe Lys Lys Ser His Gln Ile Phe Ser Pro Asn Phe Thr Gln Ser Ser
    130                 135                 140
Gln Gln Val Asn Lys Leu Glu Glu Arg Arg Arg Pro Leu Glu Ser Arg
145                 150                 155                 160
Tyr Leu Gln Gly Ala Ala Lys Gln Ala Ala Ala Ala Lys Glu Lys Lys
                165                 170                 175
Ala Leu Glu Gln Glu Val Ser Lys Gln Glu Glu Glu Ala Ser Lys Leu
            180                 185                 190
Trp Glu Glu Lys Gln Ser Tyr Ala Arg Arg Ala Val Asn Ala Ile Asn
        195                 200                 205
Phe Ser Val Arg Lys Gln Ile Glu Glu Gln Gln Lys Thr Ile Ser Asn
    210                 215                 220
Pro Gly Asn Asp Gln Thr Leu Pro Gly Lys Lys Asp Pro His Thr Ser
225                 230                 235                 240
Gly Glu Pro Val Ile Gln Thr Val Gln Asp Cys Ser Gln Asp Gln Glu
                245                 250                 255
Ala Arg Glu Lys Ser Ser Arg Ala Ile Lys Gln Thr Phe Ser Asp Val
            260                 265                 270
Ser Gly Ser
        275
```

<210>751
<211>185
<212>PRT
<213>Chlamydia trachomatis
<400>751

```
Tyr Ala Tyr Ile Trp Lys Arg Ser Arg Ile Leu Val Leu Tyr Ala Pro
  1               5                  10                  15
Gly Asn Cys Ser Phe Ala Leu Ser Met Met Lys Gln Phe Leu Asn Gln
            20                  25                  30
Arg Glu Glu Lys Ala Lys Asp Ile Gln Thr Val Ile Lys Ser Met Asp
```

```
          35                  40                  45
Thr Leu Cys Lys Thr Met His Ile Pro Ile Cys Lys Glu Gly Ile Ser
      50                  55                  60
Cys Cys Cys Phe Ile Phe Phe Leu Glu Glu Leu Met Cys Phe Ser Cys
 65                  70                  75                  80
Gly Lys Thr Asp Phe Ser Leu Lys Lys Gln Thr Gly Gly Val Gln Arg
                 85                  90                  95
Phe Gln Ala Glu Ser Gln Gly Ile Gly Glu Glu Thr Pro Leu Glu Ile
            100                 105                 110
His Glu Gln Ser Phe Leu Trp Glu Pro Gly Asp Glu Leu Ile Val His
        115                 120                 125
Thr Pro Lys Ala Arg Asp Leu Val Tyr Leu Tyr Cys Pro Ser Phe Leu
    130                 135                 140
Lys Leu Gln Asp Arg Gly Gln Ile Asp Ile Phe Cys Glu Thr Asp Asn
145                 150                 155                 160
Leu Gln Lys Gly Ile Arg Gln Lys Tyr Asp Arg Ser Leu Tyr Pro Ser
                165                 170                 175
Thr Leu Ile Ser Leu Lys Arg Val Arg
            180                 185
```

<210>752
<211>331
<212>PRT
<213>Chlamydia trachomatis
<400>752

```
Val Phe Met Leu Arg Ser Gly Val Ser Phe Ser Ser Ser Lys Thr Asn
  1                 5                  10                  15
Tyr Leu Leu Thr Arg Glu Leu Ser Arg Lys Val Gly Leu Thr Val Tyr
            20                  25                  30
Gln Gly Val Asp Glu His Ser Ser Arg Pro Val Val Ile Lys Thr Leu
        35                  40                  45
Val Ser Pro Gly Ile His Asp Arg Arg Phe Leu Arg Ala Phe Glu Glu
    50                  55                  60
Glu Ala Arg Ile Met Gln Leu Val Thr His Pro Ala Phe Val Arg Leu
65                  70                  75                  80
Glu Asp Arg Gly Glu Cys Glu Gln Gly Arg Tyr Leu Val Ser Glu Tyr
                85                  90                  95
Ile Leu Gly Ser Ser Leu Arg Asp Ser Ile Leu Ser Ser Gln Ile Ser
            100                 105                 110
Leu Asp Lys Ala Ile Ser Ile Val Leu Gln Val Ala Gln Val Ile Thr
        115                 120                 125
Thr Leu His Arg His Gly Val Leu His Leu Asp Ile Lys Pro Glu Asn
    130                 135                 140
Ile Val Leu Ser Gln Ser Gly Glu Ile Lys Leu Ile Asp Tyr Gly Leu
145                 150                 155                 160
Ser Ala Trp Gln Phe Asn His Trp Gly Ser Pro Ala Tyr Met Ser Pro
                165                 170                 175
Glu Gln Ser Arg Gln Glu Pro Pro Ser Pro Ala Ser Asp Val Tyr Ser
            180                 185                 190
Leu Ala Leu Leu Ala Tyr Glu Leu Ile Met Gly Gln Leu Ala Leu Gly
        195                 200                 205
Lys Val Tyr Val Ser Leu Leu Pro Ser Lys Ile Ser Lys Ile Leu Ile
    210                 215                 220
Gln Ala Leu Gln Pro Ser Pro Ala Ala Arg Phe Ser Ser Met Gln Glu
225                 230                 235                 240
Phe Ala Glu Ala Leu Gln Asp Tyr Leu Leu His Asp Val His Glu Asp
                245                 250                 255
Tyr Arg Lys Lys Asp His Val Val Ala Gln Ile Glu Gln Trp His Asn
            260                 265                 270
Gln Arg Ala Trp Leu Ser Pro Glu Lys Leu Ser Ala Pro Glu Glu Ile
        275                 280                 285
Cys Val His Ile Tyr Ser Gln Lys Glu Pro Cys Tyr Leu His Asn Ile
```

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```
    290                 295                 300
Tyr Tyr Asp Met Leu Thr Ser Gly Asn Val Ala Glu Phe Trp Phe Ser
305                 310                 315                 320
Thr Leu Gln Glu Thr Val Val Leu Arg Leu Ala
                325                 330
```

<210>753
<211>95
<212>PRT
<213>Chlamydia trachomatis
<400>753

```
Leu Lys Leu Gln Asp Cys Lys Arg Cys Asn Gln Lys Arg Arg Leu Lys
  1               5                  10                  15
Asn Leu Val Lys Glu Val Arg Gln Leu Pro Leu Pro Ser Ala Thr Lys
            20                  25                  30
Ile Val Ala Glu Val Ala Arg Tyr Ser Leu Ser Val Gly Glu Phe Leu
        35                  40                  45
Lys Leu Gly Pro Gly Ser Val Leu Gln Phe Asp Gly Val His Pro Thr
    50                  55                  60
Leu Gly Val Asp Ile Ile Leu Asn Gly Ala Gln Val Gly Arg Gly Asn
65                  70                  75                  80
Ile Ile Ala Leu Gln Asp Val Leu Gly Ile Arg Val Leu Glu Val
                85                  90                  95
```

<210>754
<211>125
<212>PRT
<213>Chlamydia trachomatis
<400>754

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Asn Tyr Ser Ala Glu Pro Cys Arg Phe Leu Glu Glu Lys Asp Gln Ala
  1               5                  10                  15
Phe Asp Met Gln Lys Val Asp Leu Gln Thr Pro Ile Thr Leu Ala Val
            20                  25                  30
Glu Val Gly Phe Cys Gln Ile Ser Glu Glu Asp Trp His Gln Val Val
        35                  40                  45
Pro Gly Ser Phe Ile Leu Leu Asp Ala Cys Leu Tyr Asp Pro Asp Thr
    50                  55                  60
Gly Asp Ala Gly Ala Phe Leu Ser Ile Gln Arg Thr Arg Phe Phe Gly
65                  70                  75                  80
Gly Arg Phe Leu Asp Lys Gln Ser Gly Ser Phe Lys Ile Thr Gly Leu
                85                  90                  95
Gln Glu Met Gln Pro Glu Glu Ala Pro Glu Glu Pro Ser Glu Gly Gly
            100                 105                 110
Pro Ala Thr Pro Phe Ala Phe Gly Asn Lys Asn Arg Cys
        115                 120                 125
```

<210>755
<211>200
<212>PRT
<213>Chlamydia trachomatis
<400>755

```
Gly Ile Pro Met Ala Val Ala Ala Glu Pro Ser Ser Asn Trp Leu Lys
  1               5                  10                  15
Ala Arg Asp Glu Leu Leu Ser Ser Leu Gln Glu Gln Lys Glu Gly Met
            20                  25                  30
Phe Ser Phe Pro Val Phe Pro Lys Gln Glu Cys Glu Gln Lys Leu Lys
        35                  40                  45
Asp Lys Phe His Met Glu Glu Val Glu Leu Ser Phe Glu Ser Arg Gly
    50                  55                  60
Leu Leu Ser Val Ala Ala Ala Val Gln Glu Tyr Gly Glu Arg Ile Leu
65                  70                  75                  80
Leu Gln Pro Phe Leu Ala Asn Pro Phe Glu Ser Gly Glu Phe Tyr Ile
                85                  90                  95
Val Ser Ser Glu Glu Asp Leu Gln Ala Leu Ile Gly Thr Ile Phe Asn
```

```
                100                 105                 110
Asp Ser Ser Leu Ala Ser Tyr Phe Tyr Glu Lys Asp Arg Leu Leu Gly
        115                 120                 125
Phe His Tyr Tyr Phe Val Ala Glu Ile Cys Lys Leu Leu Gln Glu Ser
    130                 135                 140
Pro Trp Ile Pro Ser Met Ser Val Lys Val Thr Gly Asp Val Ala Phe
145                 150                 155                 160
Ser Ala Arg Ala Leu Glu Gly Glu Tyr His Val Ile Gln Val Ser Cys
                165                 170                 175
Cys Leu Asp Gly Ser Cys Ile Arg Phe Ser Ile Leu Val Pro Glu Thr
            180                 185                 190
Thr Ala Gln Ser Leu Val Asp Ser
        195                 200
<210>756
<211>284
<212>PRT
<213>Chlamydia trachomatis
<400>756
Phe Met Glu Leu Asn Lys Thr Ser Glu Ser Leu Phe Ser Ala Lys Ile
  1               5                  10                  15
Asp His Asn His Pro Arg Thr Glu Ala His Glu Pro Arg Asp Gln Arg
            20                  25                  30
Glu Val Arg Val Phe Ser Leu Glu Gly Arg Ser Ser Thr Arg Gln Glu
        35                  40                  45
Lys Ala Asp Arg Met Pro Gly Arg Thr Ser Ser Arg Gln Glu Ser Ser
    50                  55                  60
Lys Ser Ser Glu Glu Gly Ala Val His Glu Ser Thr Ala Gly Val Ser
65                  70                  75                  80
Ser Lys Glu Glu Glu Glu Ser Lys Gly Asp Gly Phe Phe Thr Gly Gly
                85                  90                  95
Asn Pro Thr Ser Gly Met Ala Leu Val Glu Thr Pro Met Ala Val Val
            100                 105                 110
Ser Glu Ala Met Met Glu Thr Ser Thr Met Thr Val Ser Gln Val Asp
        115                 120                 125
Leu Gln Trp Val Glu Gln Leu Val Thr Ser Thr Val Glu Ser Leu Leu
    130                 135                 140
Val Ala Asp Ile Asp Gly Lys Gln Leu Val Glu Ile Val Leu Asp Asn
145                 150                 155                 160
Ser Asn Thr Val Pro Ala Ala Phe Cys Gly Ala Asn Leu Thr Leu Val
                165                 170                 175
Gln Thr Gly Glu Glu Ile Ser Val Ser Phe Ser Asn Phe Val Asp Gln
            180                 185                 190
Ala Gln Leu Thr Glu Ala Thr Gln Leu Val Gln Gln Asn Pro Lys Gln
        195                 200                 205
Leu Val Ser Leu Val Glu Ser Leu Lys Ala Arg Gln Leu Asn Leu Thr
    210                 215                 220
Glu Leu Val Val Gly Asn Val Ala Val Ser Leu Pro Met Ile Glu Lys
225                 230                 235                 240
Ile Glu Thr Pro Leu His Met Ile Ala Ala Thr Ile Arg His His Asp
                245                 250                 255
Gln Glu Gly Asp Gln Glu Gly Glu Gly Arg Gln Asp Gln His Gln Gly
            260                 265                 270
Gln His Gln Glu Lys Lys Val Glu Glu Ala His Ile
        275                 280
<210>757
<211>119
<212>PRT
<213>Chlamydia trachomatis
<400>757
Glu Ser Leu Tyr Ala Glu Asn Ser Pro Leu Arg Glu Gln Leu Asp Asp
  1               5                  10                  15
```

09512744.020705

Gly Thr Thr Ser Asp Ala Ile Leu Lys Met Lys Ala Tyr Ile Lys Val
20 25 30
Val Ala Ile Gln Leu Ser Glu Glu Glu Glu Lys Val Asn Lys Gln Lys
35 40 45
Glu Asn Val Leu Ala Ala Xaa Lys Glu Leu Glu Arg Ala Glu Val Glu
50 55 60
Leu Thr Lys Arg Arg Lys Glu Glu Glu Lys Thr Arg Leu His Lys Glu
65 70 75 80
Glu Trp Met Lys Glu Ala Leu Lys Glu Glu Ala Arg Gln Glu Glu Lys
85 90 95
Glu Gln Asp Glu Met Gly Gln Leu Leu His Gln Leu Leu Lys Gln Lys
100 105 110
Gln Arg Glu Ser Gly Glu Asn
115

<210>758
<211>442
<212>PRT
<213>Chlamydia trachomatis
<400>758
Met Glu Glu Ile Thr Thr Glu Phe Asn Thr Leu Met Thr Glu Leu Pro
1 5 10 15
Asp Val Gln Leu Thr Ala Val Val Gly Arg Ile Ile Glu Val Val Gly
20 25 30
Met Leu Ile Lys Ala Val Val Pro Asp Val Arg Val Gly Glu Val Cys
35 40 45
Leu Val Lys Arg His Gly Met Glu Pro Leu Val Thr Glu Val Val Gly
50 55 60
Phe Thr Gln Asn Phe Val Phe Leu Ser Pro Leu Gly Glu Leu Thr Gly
65 70 75 80
Val Ser Pro Ser Ser Glu Val Met Ala Thr Gly Leu Pro Leu His Ile
85 90 95
Arg Ala Gly Glu Gly Leu Leu Gly Arg Val Leu Asn Gly Leu Gly Asn
100 105 110
Pro Ile Asp Thr Glu Thr Lys Gly Pro Leu Glu Asn Val Asp Ala Ile
115 120 125
Tyr Pro Ile Phe Lys Ala Pro Pro Asp Pro Leu His Arg Ala Lys Leu
130 135 140
Arg Thr Ile Leu Ser Thr Gly Val Arg Cys Ile Asp Gly Met Leu Thr
145 150 155 160
Val Ala Lys Gly Gln Arg Ile Gly Ile Xaa Ala Gly Ala Gly Val Gly
165 170 175
Lys Ser Ser Leu Leu Gly Met Ile Ala Arg Asn Ala Glu Glu Ala Asp
180 185 190
Ile Asn Val Ile Ala Leu Ile Gly Glu Arg Gly Arg Glu Val Arg Glu
195 200 205
Phe Ile Glu Asn Asp Leu Gly Glu Glu Gly Met Lys Arg Ser Ile Ile
210 215 220
Val Val Ser Thr Ser Asp Gln Ser Ser Gln Leu Arg Leu Asn Ala Ala
225 230 235 240
Tyr Val Gly Thr Ala Ile Ala Glu Tyr Phe Arg Asp Gln Gly Lys Thr
245 250 255
Val Val Leu Met Met Asp Ser Val Thr Arg Phe Ala Arg Ala Leu Arg
260 265 270
Glu Val Gly Leu Ala Ala Gly Glu Pro Pro Ala Arg Ala Gly Tyr Thr
275 280 285
Pro Ser Val Phe Ser Thr Leu Pro Lys Leu Leu Glu Arg Ala Gly Ala
290 295 300
Ser Asp Lys Gly Thr Ile Thr Ala Phe Tyr Thr Val Leu Val Ala Gly
305 310 315 320
Asp Asp Met Asn Glu Pro Val Ala Asp Glu Val Lys Ser Ile Leu Asp
325 330 335

```
Gly His Ile Val Leu Ser Asn Ala Leu Ala Gln Ala Tyr His Tyr Pro
            340                 345                 350
Ala Ile Asp Val Leu Ala Ser Ile Ser Arg Leu Leu Thr Ala Ile Val
        355                 360                 365
Pro Glu Glu Gln Arg Arg Ile Ile Gly Arg Ala Arg Glu Val Leu Ala
    370                 375                 380
Lys Tyr Lys Ala Asn Glu Met Leu Ile Arg Ile Gly Glu Tyr Arg Arg
385                 390                 395                 400
Gly Ser Asp Arg Glu Val Asp Phe Ala Ile Asp His Ile Asp Lys Leu
                405                 410                 415
Asn Arg Phe Leu Lys Gln Asp Ile His Glu Lys Thr Asn Tyr Glu Glu
            420                 425                 430
Ala Ala Gln Gln Leu Arg Ala Ile Phe Arg
        435                 440
<210>759
<211>231
<212>PRT
<213>Chlamydia trachomatis
<400>759
Ile Arg Glu Arg Val Gly Tyr Ser Met Ile Asp Pro Leu Lys Leu Phe
  1               5                  10                  15
Pro Asn Phe Asp Gly Asp Lys Glu Ser Ala Ala Val Asn Lys Pro Ser
            20                  25                  30
Ala Ser Pro Met Pro Ser Glu Leu Ser Lys Asn Val Ala Ser Phe Ser
        35                  40                  45
Leu Gly Gly Gly Gly Ala Ala Leu Asp Ser Thr Val Ser Thr Glu Lys
    50                  55                  60
Leu Ser Leu Met Ala Met Met Gln Asp Lys Asn Ser Gln Leu Ile Asp
65                  70                  75                  80
Pro Glu Leu Glu Glu Ala Leu Asn Ser Glu Glu Leu Gln Glu Gln Ile
                85                  90                  95
His Leu Leu Lys Ser Arg Leu Trp Asp Ala Gln Thr Gln Met Gln Met
            100                 105                 110
Gln Asp Pro Asp Lys Leu Ala Ser Glu His Val Asp Ala Leu Gly Val
        115                 120                 125
Ile Val Asp Leu Ile Asn Gly Asp Phe Gln Ala Ile Ala Glu His Thr
    130                 135                 140
Gln Gln Thr Val Lys Gln Gly Asn Gly Asp Glu Glu Lys Ser Val Thr
145                 150                 155                 160
Arg Lys Ile Val Asp Trp Val Ser Ser Gly Glu Glu Ile Leu Asn Arg
                165                 170                 175
Ala Leu Leu Tyr Phe Ser Asp Arg Asn Gly Glu Arg Glu Thr Leu Ala
            180                 185                 190
Asp Phe Leu Lys Val Gln Tyr Ala Val Gln Arg Ala Thr Gln Arg Ala
        195                 200                 205
Glu Leu Phe Ala Ser Ile Leu Gly Ala Thr Val Ser Ser Val Lys Thr
    210                 215                 220
Ile Met Thr Thr Gln Leu Gly
225                 230
<210>760
<211>154
<212>PRT
<213>Chlamydia trachomatis
<400>760
Asn Lys Arg Trp Val Met Ala Asp Leu Asp Val Phe Lys Glu Asp Phe
  1               5                  10                  15
Ala Leu Leu Phe Glu Ala Gly Met Val Ala Ile Lys Gln Gly Asp Glu
            20                  25                  30
Ala Ser Ala Lys Ala Leu Phe Gln Ala Leu Gln Val Leu Asp Pro Glu
        35                  40                  45
His Thr Ala His Glu Leu Gly Ser Gly Leu Leu His Leu His Lys Met
```

```
     50                  55                  60
Glu Leu Thr Lys Ala Glu Val Leu Phe Arg Ala Ile Val Glu Lys Asp
 65                  70                  75                  80
Pro Glu Asn Trp Ser Ala Lys Ala Phe Leu Ser Leu Thr Leu Met Met
                 85                  90                  95
Ile Val Leu Gln Gln Gly Ser Ser Phe Glu Val Arg Arg Ser Ser Leu
            100                 105                 110
Glu Arg Cys Leu Gln Leu Ala Asp Gln Val Leu Glu Ser Cys Glu Val
        115                 120                 125
Glu Ser Thr Arg Ala Leu Ala Lys Ser Val Leu Asp Trp His Asp Gly
    130                 135                 140
Leu Val Ala Lys Ser Gly Gly Pro Leu Asn
145                 150
<210>761
<211>90
<212>PRT
<213>Chlamydia trachomatis
<400>761
Thr Val Lys Glu Arg Val Ser Met Ala Ser Gly Ser Cys Ser Ala Phe
  1               5                  10                  15
Asn Phe Asn Gln Met Leu Asp Gly Val Cys Lys Tyr Val Gln Gly Val
            20                  25                  30
Gln Gln Tyr Leu Thr Glu Leu Glu Thr Ser Thr Gln Gly Thr Val Asp
        35                  40                  45
Leu Gly Thr Met Phe Asn Leu Gln Phe Arg Met Gln Ile Leu Ser Gln
     50                  55                  60
Tyr Met Glu Ser Val Ser Asn Ile Leu Thr Ala Val Asn Thr Glu Met
 65                  70                  75                  80
Ile Thr Met Ala Arg Ala Val Lys Gly Ser
                 85                  90
<210>762
<211>103
<212>PRT
<213>Chlamydia trachomatis
<400>762
Asn Ile Lys Leu Ser Thr Ile Asn Arg Gln Phe Glu Val Tyr Leu Ile
  1               5                  10                  15
Leu Pro Gly Arg Asn Lys Ser Met Phe Asn Met Glu Asn Ser Ala Ala
            20                  25                  30
Lys Gly Glu Lys Ala Ala Arg Gln Leu Phe Asp Leu Glu Gln Asp Met
        35                  40                  45
His Asp Val Ala Lys Ala His Glu Val Asn Ala Asn Val Gln Ser Lys
     50                  55                  60
Val Gln Thr Leu Thr Ser Ser Leu Arg Glu Gly Ala Phe Lys Glu Ser
 65                  70                  75                  80
Phe Glu Lys Gln Gln Thr Leu Leu Ala Gly Ile Cys Ser Ser Ser Lys
                 85                  90                  95
Gly Ala Arg Thr Tyr Gln Pro
            100
<210>763
<211>767
<212>PRT
<213>Chlamydia trachomatis
<400>763
Met Leu Pro Arg Pro Val Ser Val Asp Gly Thr Val Ile Thr Ala Pro
  1               5                  10                  15
Val Leu Leu Lys Asp Gly Val Ser Phe Val Met Gly Ser Cys Gln Val
            20                  25                  30
Ser Phe Phe Lys Gly Glu Glu Val Glu Gly Asp Ile Glu Leu Ser Phe
        35                  40                  45
Gln Thr Glu Gly Gly Asn Glu Gly Glu Pro Ala Ala Gln Gly Ser Ser
```

```
     50                  55                  60
Ser Val Ser Ser Glu Gly Pro Lys Lys Glu Thr Gly Asn Pro Ser Leu
 65                  70                  75                  80
Pro Ser Glu Thr Lys Val Ser Gly Glu Val Ser Ser Ser Ala Ile Ala
                 85                  90                  95
Lys Glu Gln Glu Leu Ala Val Phe Phe Leu Ala Ser Val Glu Lys Glu
            100                 105                 110
Pro Gly Thr Pro Lys Glu Val Ser Glu Pro Lys Val Ser Ser Gln Glu
        115                 120                 125
Gly Gln Thr Pro Ser Val Thr Gly Glu Lys Lys Asp Leu Glu Leu Pro
    130                 135                 140
Leu Ala Ser Gln Glu Gln Pro Lys Gln Thr Thr Pro Ser Gly Ser Gly
145                 150                 155                 160
Glu Pro Thr Gln Ser Gln Asn Ala Ser Met Glu Glu Asn Arg Thr Ser
                165                 170                 175
Pro Asp Gln Asn Gln Gln Pro Gln Leu Ser Ser Ala Ser Glu Ser Gly
            180                 185                 190
Ser Gln Ser Pro Glu Asn Gln Glu Gln Gln Pro Ser Gln Thr Pro Pro
        195                 200                 205
Pro Ser Pro Glu Thr Pro Glu Pro Ser Gly Glu Pro Asn Ser Ala Thr
    210                 215                 220
Glu Glu Asn Ser Pro Ser Pro Met Glu Lys Ala Ser Val Thr Glu Glu
225                 230                 235                 240
Gly Ser Ser Gly Thr Ser Glu Glu Glu Lys Glu Gly Glu Glu Asp Thr
                245                 250                 255
Ala Glu Ser Ala Ala Asn Glu Glu Leu Lys Ala Glu Ala Ser Gln Glu
            260                 265                 270
Glu Glu Lys Lys Glu Glu Asp Lys Xaa Glu Val Leu Ala Pro Phe Asn
        275                 280                 285
Val Gln Asp Leu Phe Arg Phe Asp Gln Gly Ile Phe Pro Ala Glu Ile
    290                 295                 300
Glu Asp Leu Ala Gln Lys Gln Val Ala Val Asp Leu Thr Gln Pro Ser
305                 310                 315                 320
Arg Phe Leu Leu Lys Val Leu Ala Gly Ala Asn Ile Gly Ala Glu Phe
                325                 330                 335
His Leu Asp Ser Gly Lys Thr Tyr Ile Val Gly Ser Asp Pro Gln Val
            340                 345                 350
Ala Asp Ile Val Leu Ser Asp Met Ser Ile Ser Arg Gln His Ala Lys
        355                 360                 365
Ile Ile Ile Gly Asn Asp Asn Ser Val Leu Ile Glu Asp Leu Gly Ser
    370                 375                 380
Lys Asn Gly Val Ile Val Glu Gly Arg Lys Ile Glu His Gln Ser Thr
385                 390                 395                 400
Leu Ser Ala Asn Gln Val Val Ala Leu Gly Thr Thr Leu Phe Leu Leu
                405                 410                 415
Val Asp Tyr Thr Ala Pro Ser Asp Thr Val Met Ala Thr Ile Ser Ser
            420                 425                 430
Glu Asp Tyr Gly Leu Phe Gly Arg Pro Gln Ser Pro Glu Glu Ile Ala
        435                 440                 445
Ala Arg Ala Ala Glu Glu Glu Glu Glu Lys Arg Lys Arg Ala Thr Leu
    450                 455                 460
Pro Thr Gly Ala Phe Ile Leu Thr Leu Phe Ile Gly Gly Leu Ala Leu
465                 470                 475                 480
Leu Phe Gly Ile Gly Thr Thr Ser Leu Phe His Thr Lys Glu Val Val
                485                 490                 495
Ser Ile Asp Gln Ile Asp Leu Ile His Asp Ile Glu His Val Ile Gln
            500                 505                 510
Gln Phe Pro Thr Val Arg Phe Thr Phe Asn Lys Asn Asn Gly Gln Leu
        515                 520                 525
Phe Leu Ile Gly His Val Arg Asn Ser Ile Asp Lys Ser Glu Leu Leu
    530                 535                 540
```

```
Tyr Lys Val Asp Ala Leu Ser Phe Val Lys Ser Val Asp Asp Asn Val
545                 550                 555                 560
Ile Asp Asp Glu Ala Val Trp Gln Glu Met Asn Ile Leu Leu Ser Lys
                565                 570                 575
Asn Pro Glu Phe Lys Gly Ile Ser Met Gln Ser Pro Glu Pro Gly Ile
            580                 585                 590
Phe Val Ile Ser Gly Tyr Leu Lys Thr Glu Glu Gln Ala Ala Cys Leu
        595                 600                 605
Ala Asp Tyr Leu Asn Leu His Phe Asn Tyr Leu Ser Leu Leu Asp Asn
    610                 615                 620
Lys Val Ile Ile Glu Ser Gln Val Met Lys Ala Leu Ala Gly His Leu
625                 630                 635                 640
Val Gln Ser Gly Phe Ala Asn Val His Val Ser Phe Thr Asn Gly Glu
                645                 650                 655
Ala Val Leu Thr Gly Tyr Ile Asn Asn Lys Asp Ala Asp Lys Phe Arg
            660                 665                 670
Thr Val Val Gln Glu Leu Gln Asp Ile Ala Gly Ile Arg Ala Val Lys
        675                 680                 685
Asn Phe Val Val Leu Leu Xaa Ala Glu Glu Gly Val Ile Asp Leu Asn
    690                 695                 700
Met Arg Tyr Pro Gly Arg Tyr Arg Val Thr Gly Phe Ser Lys Cys Gly
705                 710                 715                 720
Asp Ile Ser Ile Asn Val Val Val Asn Gly Arg Ile Leu Thr Arg Gly
                725                 730                 735
Asp Ile Leu Asp Gly Met Thr Val Thr Ser Ile Gln Pro His Cys Ile
            740                 745                 750
Phe Leu Glu Arg Glu Gly Leu Lys Tyr Lys Ile Glu Tyr Asn Lys
        755                 760                 765
<210>764
<211>137
<212>PRT
<213>Chlamydia trachomatis
<400>764
Ala Arg Glu His Met Leu Glu Lys Leu Ile Lys Asn Phe Val Ala Tyr
  1                 5                  10                  15
Met Gly Val Ala Ser Glu Leu Glu Phe Asp Ala Asp Gly Ser Tyr Val
             20                  25                  30
Leu Pro Ile Ser Ser Leu Val Arg Met Arg Val Arg Gln Asn Ala Asp
         35                  40                  45
Glu Glu Ile Ile Ile Ser Ala Phe Leu Gly Glu Ile Pro Ala Phe Met
     50                  55                  60
Asp Ile Glu Lys Ala Tyr Ala Arg Met Met Glu Gly Asn Leu Phe Gly
 65                  70                  75                  80
Gln Glu Thr Gly Gly Ala Ala Leu Gly Leu Asp Ser Asp Gly His Ala
                 85                  90                  95
Val Leu Val Arg Arg Val Pro Gly Glu Val Ser Gln Glu Asp Phe Ala
            100                 105                 110
Ser Phe Ile Gly Gly Val Leu Asn Tyr Ala Glu Ala Trp Leu Glu Asp
        115                 120                 125
Leu Gly Leu Ser Lys Thr Glu Gln Xaa
    130                 135
<210>765
<211>348
<212>PRT
<213>Chlamydia trachomatis
<400>765
Met Met Arg Gly Ser Leu Arg Ser Lys Glu Glu Thr Val Met Val Arg
  1                 5                  10                  15
Glu Gly Glu Glu Arg Ile Gly Asn Arg Val Leu Leu Gly Val Ile Gly
             20                  25                  30
Val Ser Tyr Arg Glu Thr Thr Leu Gln Gln Arg Glu Gln Val Leu His
```

```
         35                  40                  45
Ile Leu Gln Gln Ala Gln Gly Ser Phe Arg Pro Glu Val Phe Gln Glu
     50                  55                  60
Glu Arg Asp Tyr Val Leu Leu Ala Thr Cys His Arg Val Glu Leu Tyr
 65                  70                  75                  80
Ser Val Ala Pro Ala Glu Leu Phe Asp Ser Leu Ala Gln Glu Ile Lys
                 85                  90                  95
Leu Leu Gly Val Ser Pro Tyr Phe Tyr Arg Asn Gln Asp Cys Phe Ala
            100                 105                 110
His Leu Phe Cys Val Ala Gly Gly Leu Asp Ser Leu Val Leu Gly Glu
        115                 120                 125
Thr Glu Ile Gln Gly Gln Val Lys Arg Ala Tyr Leu Gln Ala Ala Arg
    130                 135                 140
Glu Gln Lys Leu Ser Phe Ala Leu His Phe Leu Phe Gln Lys Ala Leu
145                 150                 155                 160
Lys Glu Gly Lys Val Phe Arg Ala Lys Gly Gly Ala Pro Tyr Ala Ala
                165                 170                 175
Ile Thr Ile Pro Ile Leu Val Asp Gln Glu Leu Arg Arg Arg Gln Ile
            180                 185                 190
Asp Lys Lys Ala Ser Leu Leu Phe Ile Gly Tyr Ser Glu Ile Asn Arg
        195                 200                 205
Ser Val Ala Tyr His Leu Arg Arg Gln Gly Phe Ser Cys Ile Thr Phe
    210                 215                 220
Cys Ser Arg Gln Gln Leu Pro Thr Leu Ser Met Arg Gln Val Val Arg
225                 230                 235                 240
Glu Glu Leu Cys Phe Gln Asp Pro Tyr Arg Val Val Phe Leu Gly Ser
                245                 250                 255
Leu Glu Leu Gln Tyr Ala Leu Pro His Ser Leu Trp Glu Ser Ile Trp
            260                 265                 270
Asp Ile Pro Asp Arg Ile Val Phe Asp Phe Ala Val Pro Arg Ala Leu
        275                 280                 285
Pro Ser His Thr Val Phe Pro His Arg Tyr Met Asp Met Asp Gln Ile
    290                 295                 300
Ser Asp Trp Leu Arg Glu His Arg Lys Glu Val Asn Ser Ala His Leu
305                 310                 315                 320
Asp Ser Leu Arg Glu Val Ala Tyr Arg Tyr Trp Asn Ser Leu Asn Gln
                325                 330                 335
Arg Leu Glu Arg His Asp Cys Val Gly Ala Asn Ala
            340                 345
```

<210>766
<211>605
<212>PRT
<213>Chlamydia trachomatis
<400>766

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Met Arg Lys Lys Thr Ala Tyr Ser Glu Ser Ser Ile Ile Ser Leu Ala
  1               5                  10                  15
Ser Leu Asp His Ile Arg Leu Arg Ala Gly Met Tyr Ile Gly Arg Leu
            20                  25                  30
Gly Asp Gly Ser Gln Ala Glu Asp Gly Ile Tyr Thr Leu Phe Lys Glu
        35                  40                  45
Val Val Asp Asn Ala Ile Asp Glu Phe Val Met Gly Tyr Gly His Thr
    50                  55                  60
Ile His Ile Thr Gly Asp Ala His Glu Leu Ser Ile Arg Asp Glu Gly
65                  70                  75                  80
Arg Gly Ile Pro Leu Gly Lys Val Ile Asp Cys Val Ser Lys Ile Asn
                85                  90                  95
Thr Gly Ala Lys Tyr Thr Gln Asp Val Phe His Phe Ser Val Gly Leu
            100                 105                 110
Asn Gly Val Gly Leu Lys Ala Val Asn Ala Leu Ser Gln His Phe Ser
        115                 120                 125
Val Arg Ser Val Arg Asn Lys Lys Phe Leu Lys Ala Ser Phe Ser Lys
```

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```
    130                 135                 140
Gly Ile Leu Leu His Thr Glu Gln Gly Ala Thr Gln Asp Pro Asp Gly
145                 150                 155                 160
Thr Glu Val Val Phe Ser Pro Asp His Glu Leu Phe Glu Asn Phe Ser
                165                 170                 175
Phe Gln Val Glu Phe Leu Lys Lys Lys Ile Arg Gln Tyr Thr Tyr Leu
            180                 185                 190
His Pro Gly Leu Thr Ile Ile Tyr Asn Gly Glu Arg Ile Val Ser Thr
        195                 200                 205
Arg Gly Leu Leu Asp Leu Phe Glu Glu Glu Val Gln Thr Pro Leu Leu
    210                 215                 220
Tyr Ser Pro Ile Thr Phe Gln Tyr Ser Asp Leu Ala Phe Leu Phe Ser
225                 230                 235                 240
His Thr Glu Thr Ser Ser Glu Gln Tyr Phe Ser Phe Val Asn Gly Gln
                245                 250                 255
Glu Thr Thr Asp Gly Gly Thr His Leu Val Ala Phe Lys Glu Gly Ile
            260                 265                 270
Val Lys Gly Val Asn Glu Phe Phe Gly Lys Asn Phe Ser Ser Gln Asp
        275                 280                 285
Ile Arg Glu Gly Leu Ala Gly Cys Ile Ala Ile Lys Ile Ala Ser Pro
    290                 295                 300
Ile Phe Glu Ser Gln Thr Lys Asn Lys Leu Gly Asn Thr Asn Ile Arg
305                 310                 315                 320
Ala Glu Leu Ala Lys Arg Val Lys Glu Ala Val Leu Ser Ser Leu Lys
                325                 330                 335
Lys Asn Pro Ser Ser Ala Glu Arg Ile Gln Glu Lys Ile Lys Leu Asn
            340                 345                 350
Glu Lys Thr Arg Lys Asn Ala Gln Phe Leu Lys Gln Glu Leu Lys Asp
        355                 360                 365
Lys Gln Lys Lys Leu His Tyr Lys Ile Pro Lys Leu Arg Asp Cys Lys
    370                 375                 380
Phe His Leu Thr Asp Asn Ser Leu Tyr Gly Lys Asn Ser Ser Ile Phe
385                 390                 395                 400
Ile Thr Glu Gly Glu Ser Ala Ser Ala Ser Ile Leu Ala Ser Arg Asn
                405                 410                 415
Pro Leu Thr Gln Ala Val Phe Ser Leu Arg Gly Lys Pro Met Asn Val
            420                 425                 430
Phe Ser Ser Lys Glu Glu Thr Ile Tyr Lys Asn Asp Glu Leu Phe Tyr
        435                 440                 445
Leu Ala Thr Ala Leu Gly Leu His Lys Asp Ser Leu Gln Asn Leu Arg
    450                 455                 460
Tyr Asn Gln Val Ile Leu Ala Thr Asp Ala Asp Val Asp Gly Met His
465                 470                 475                 480
Ile Arg Asn Leu Met Ile Thr Phe Phe Leu Lys Thr Phe Leu Pro Leu
                485                 490                 495
Val Ala Ser Asn His Leu Phe Ile Leu Glu Thr Pro Leu Phe Lys Val
            500                 505                 510
Arg His Lys Asp Ala Thr Phe Tyr Cys Tyr Ser Glu Glu Glu Lys Leu
        515                 520                 525
Ser Thr Ile Glu His Ile Gly Lys Lys Glu Ser Ser Leu Glu Ile Thr
    530                 535                 540
Arg Phe Lys Gly Leu Gly Glu Ile Ser Pro Lys Glu Phe Lys Ser Phe
545                 550                 555                 560
Ile Gly Ala Asp Met Arg Leu Thr Pro Val Ser Leu Pro Asp Thr Glu
                565                 570                 575
Thr Leu Asp Thr Leu Leu Gln Phe Tyr Met Gly Lys Asn Thr Lys Glu
            580                 585                 590
Arg Lys Leu Phe Ile Ile Glu Asn Leu Val Thr Asn Leu
        595                 600                 605
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<210>767
<211>502

<212>PRT
<213>Chlamydia trachomatis
<400>767

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Glu Ser Cys Tyr Gln Pro Leu Ala Ile Asn Glu Leu Met Ser Asp Leu
  1               5                  10                  15
Ser Asp Leu Phe Lys Thr His Phe Thr Gln Tyr Ala Ser Tyr Val Ile
             20                  25                  30
Leu Glu Arg Ala Ile Pro His Val Leu Asp Gly Leu Lys Pro Val Gln
         35                  40                  45
Arg Arg Leu Leu Trp Thr Leu Phe Arg Met Asp Asp Gly Lys Met His
     50                  55                  60
Lys Val Ala Asn Ile Ala Gly Arg Thr Met Ala Leu His Pro His Gly
 65                  70                  75                  80
Asp Ala Pro Ile Val Glu Ala Leu Val Val Leu Ala Asn Lys Gly Phe
                 85                  90                  95
Leu Ile Glu Thr Gln Gly Asn Phe Gly Asn Pro Leu Thr Gly Asp Pro
            100                 105                 110
His Ala Ala Ala Arg Tyr Ile Glu Ala Arg Leu Ser Pro Leu Ala Lys
        115                 120                 125
Glu Val Leu Phe Asn Thr Asp Leu Met Thr Phe His Asp Ser Tyr Asp
    130                 135                 140
Gly Arg Glu Gln Glu Pro Asp Ile Leu Ala Ala Lys Ile Pro Leu Leu
145                 150                 155                 160
Leu Leu His Gly Val Asp Gly Ile Ala Val Gly Met Thr Thr Lys Ile
                165                 170                 175
Phe Pro His Asn Phe Cys Asp Leu Leu Glu Ala Gln Ile Ala Ile Leu
            180                 185                 190
Asn Asp Gln Pro Phe Ser Leu Leu Pro Asp Phe Pro Ser Gly Gly Thr
        195                 200                 205
Met Asp Ala Ser Asp Tyr Gln Asp Gly Leu Gly Ser Ile Val Leu Arg
    210                 215                 220
Ala Thr Ile Asp Ile Ile Asn Asp Lys Thr Leu Leu Ile Lys Glu Ile
225                 230                 235                 240
Cys Pro Ser Thr Thr Thr Glu Thr Leu Ile Arg Ser Ile Glu Asn Ala
                245                 250                 255
Ala Lys Arg Gly Ile Ile Lys Ile Asp Ser Ile Gln Asp Phe Ser Thr
            260                 265                 270
Asp Leu Pro His Ile Glu Ile Lys Leu Pro Lys Gly Ile His Ala Lys
        275                 280                 285
Asp Leu Leu Arg Pro Leu Tyr Thr His Thr Glu Cys Gln Val Ile Leu
    290                 295                 300
Thr Ser Arg Pro Thr Ala Ile Tyr Gln Gly Lys Pro Trp Glu Thr Thr
305                 310                 315                 320
Ile Ser Glu Ile Leu Arg Leu Gln Thr Glu Thr Leu Gln Asn Tyr Leu
                325                 330                 335
Lys Lys Glu Leu Leu Ile Leu Glu Asp Ser Leu Ser Arg Glu Leu Tyr
            340                 345                 350
His Lys Thr Leu Glu Tyr Leu Phe Ile Lys His Lys Leu Tyr Asp Thr
        355                 360                 365
Val Arg Ser Met Leu Ser Lys Arg Lys Thr Ser Pro Ser Ser Ser Ala
    370                 375                 380
Ile His Asn Ala Val Leu Glu Ala Leu Thr Pro Phe Leu Asp Thr Leu
385                 390                 395                 400
Pro Ala Pro Asp Lys Gln Ala Thr Ala Gln Leu Ala Ala Leu Thr Ile
                405                 410                 415
Lys Lys Ile Leu Cys Phe Asp Glu Asn Ser Tyr Glu Lys Glu Leu Ala
            420                 425                 430
Cys Leu Glu Lys Lys Arg Ser Ser Val Gln Lys Asp Leu Ser Gln Leu
        435                 440                 445
Lys Lys Tyr Thr Val Leu Tyr Ile Lys Lys Leu Leu Glu Thr Tyr Arg
    450                 455                 460
```

```
Gln Leu Gly His Arg Lys Thr Lys Ile Ala Lys Phe Asp Asp Leu Pro
465                 470                 475                 480
Thr Glu Arg Val Ser Ala His Lys Lys Ala Lys Glu Pro Ala Ala Leu
                485                 490                 495
Asp Gln Glu Glu Asn Phe
            500
<210>768
<211>82
<212>PRT
<213>Chlamydia trachomatis
<400>768
Asp Leu Leu Arg Met Lys Glu Phe Leu Ala Tyr Ile Val Lys Asn Leu
  1               5                  10                  15
Val Asp Lys Pro Glu Glu Val His Leu Lys Glu Val Gln Gly Thr Asn
            20                  25                  30
Thr Ile Ile Tyr Glu Leu Thr Val Ala Lys Gly Asp Ile Gly Lys Ile
        35                  40                  45
Ile Gly Lys Glu Gly Arg Thr Ile Lys Ala Ile Arg Thr Leu Leu Val
    50                  55                  60
Ser Val Ala Ser Arg Asp Asn Val Lys Val Ser Leu Glu Ile Met Glu
65                  70                  75                  80
Glu Arg

<210>769
<211>150
<212>PRT
<213>Chlamydia trachomatis
<400>769
Leu Ile Leu Glu Ile Pro Ala Pro Thr Ala Val Phe Ser Phe Val Ile
  1               5                  10                  15
Asp Glu Gln Leu Thr Gly Arg Leu Asp Lys Gly Leu Val Ser Tyr Asn
            20                  25                  30
Gly Ala Tyr Ser Arg Ala Phe Tyr Gln Gln Gln Ile Glu Leu Gly Arg
        35                  40                  45
Val Arg Val Asn Gly Arg Val Tyr Thr Arg Val Ser His Pro Leu Ser
    50                  55                  60
Leu Gly Asp Val Val Glu Val Glu Leu Ile Glu Glu Glu Glu Pro Ser
65                  70                  75                  80
Ser Leu Ile Pro Glu Asp Ile Pro Leu Asp Lys Val Tyr Glu Asp Asp
                85                  90                  95
Met Ile Leu Val Ile Asn Lys Pro Arg Asp Met Val Val His Pro Ala
            100                 105                 110
Pro Gly His Thr Gln Gly Thr Val Val His Ala Leu Leu His Glu Ile
        115                 120                 125
Gly Glu Arg Leu Lys Gln Glu Leu Pro Arg Gly Ala Met Ala Pro Arg
    130                 135                 140
Asp Cys Thr Ser Leu Arg
145                 150
<210>770
<211>124
<212>PRT
<213>Chlamydia trachomatis
<400>770
Arg Asn Gly Ser Ser Thr Thr Arg Phe Lys Glu Asn Ala Phe Gly Ile
  1               5                  10                  15
Gln Arg Leu Met Glu Ile Arg Tyr Phe Leu Ala Arg Pro Leu Leu Glu
            20                  25                  30
Glu Glu Val Cys Arg Leu Ala Asn Asn Arg Lys Asn Phe Leu Phe Asp
        35                  40                  45
Ala Glu Lys Tyr Leu Ile Pro Ile Cys Tyr Lys Gln Thr Ile Tyr Leu
    50                  55                  60
```

```
Ala Lys Pro Leu Ser Arg Phe Pro Met Thr Gln Glu Val Trp Glu Leu
 65                  70                  75                  80
His Val Gln His Val Ile Ser Leu Leu Lys Gln Gln Phe Gly Ile Leu
                85                  90                  95
Thr Asp His Ala Pro Ile Leu Leu Ala Cys Glu Ala Arg Gln Val Val
            100                 105                 110
Leu Leu Glu Ser Leu Asp Ser Phe Val Asn Ile Ser
        115                 120
<210>771
<211>117
<212>PRT
<213>Chlamydia trachomatis
<400>771
Lys Ile Leu Leu Thr Gln Val Lys Tyr Arg Lys Ile Phe Val Leu Gly
  1               5                  10                  15
Glu Ser Leu Val Met Asp Thr Gln Phe Ile Ala Ser Arg Ser Val Arg
            20                  25                  30
Asn Gln Gly Val Thr Ser Val Ser Gly Gln Val Lys Glu Glu Leu Met
        35                  40                  45
Ser Pro Ser Asn Met Thr Phe Glu Gly Pro Val Arg Ser Leu Asp Gln
    50                  55                  60
Leu Arg Gln Ala Leu Ile Ala Lys Met Gly Glu Gln Lys Gly Gln Glu
 65                  70                  75                  80
Met Tyr Asp Arg Phe Ile Gln Ser Leu Leu Ile Ser Thr Phe Thr Thr
                85                  90                  95
Val His Lys Glu Met Asp Arg Ala Gln Arg Ala Ser Lys Lys Met Arg
            100                 105                 110
Ser Val Tyr Arg Asp
        115
<210>772
<211>269
<212>PRT
<213>Chlamydia trachomatis
<400>772
Met Phe Pro Glu Asn Lys Met Leu Leu Ile Ala Gly Pro Cys Val Ile
  1               5                  10                  15
Glu Asp Asn Ser Val Phe Glu Thr Ala Arg Arg Leu Lys Glu Ile Val
            20                  25                  30
Ala Pro Tyr Ala Ser Ser Val His Trp Ile Phe Lys Ser Ser Tyr Asp
        35                  40                  45
Lys Ala Asn Arg Ser Ser Val His Asn Tyr Arg Gly Pro Gly Leu Arg
    50                  55                  60
Leu Gly Leu Gln Thr Leu Ala Lys Ile Lys Glu Glu Leu Asp Val Glu
 65                  70                  75                  80
Ile Leu Thr Asp Val His Ser Pro Asp Glu Ala Arg Glu Ala Ala Lys
                85                  90                  95
Val Cys Asp Ile Ile Gln Val Pro Ala Phe Leu Cys Arg Gln Thr Asp
            100                 105                 110
Leu Leu Val Thr Ala Gly Glu Thr Gln Ala Ile Val Asn Ile Lys Lys
        115                 120                 125
Gly Gln Phe Leu Ser Pro Trp Glu Met Gln Gly Pro Ile Asp Lys Val
    130                 135                 140
Leu Ser Thr Gly Asn Asn Lys Ile Ile Leu Thr Glu Arg Gly Cys Ser
145                 150                 155                 160
Phe Gly Tyr Asn Asn Leu Val Ser Asp Met Arg Ser Ile Glu Val Leu
                165                 170                 175
Arg Arg Phe Gly Phe Pro Val Val Phe Asp Gly Thr His Ser Val Gln
            180                 185                 190
Leu Pro Gly Ala Leu His Ser Gln Ser Gly Gly Gln Thr Glu Phe Ile
        195                 200                 205
Pro Val Leu Thr Arg Ser Ala Ile Ala Ala Gly Val Gln Gly Leu Phe
```

```
    210                 215                 220
Ile Glu Thr His Pro Asn Pro Ser Ser Ala Leu Ser Asp Ala Ala Ser
225                 230                 235                 240
Thr Leu Ser Leu Lys Asp Leu Glu Arg Leu Leu Pro Ala Trp Val Gln
                245                 250                 255
Leu Phe Thr Tyr Ile Gln Glu Met Asp Ala Val Ser Val
            260                 265
```

<210>773
<211>128
<212>PRT
<213>Chlamydia trachomatis
<400>773

```
Met Leu Phe Leu Tyr Asp Xaa Xaa Leu Phe His Gly Ile Trp Cys Val
  1               5                  10                  15
Val Val Leu Ile Leu Cys Ala Cys Val Thr Ala Leu Ala Val Val Lys
            20                  25                  30
Met Gly Asp Phe Thr Asn Pro Thr Leu Val His Gln Asp Ser Val Thr
        35                  40                  45
Pro Ala Pro Pro Phe Leu Lys Ile Lys Lys Leu Gly Val Arg Lys Arg
    50                  55                  60
Ile Ile Ser Pro Glu Lys Gln Leu Phe Tyr Cys Thr Ile Asp Lys Ser
65                  70                  75                  80
Cys Met Glu Leu His Phe Ser Asn Thr Ser Leu His Cys Arg Glu Leu
                85                  90                  95
Leu Ser His Leu Thr Gly Cys Leu Gln Thr Glu Xaa Ala Asp Pro Leu
            100                 105                 110
Cys Phe Leu Glu Val Leu Glu Asp Phe Leu Ile Thr Lys Ile Ile Leu
        115                 120                 125
```

<210>774
<211>239
<212>PRT
<213>Chlamydia trachomatis
<400>774

```
Met Ser Val Leu Ser Val Cys Asn Leu Ile Lys Lys Tyr Asn Lys Lys
  1               5                  10                  15
Pro Val Thr Asn Asp Val Ser Phe Gln Val Asn Ala Gly Glu Ile Val
            20                  25                  30
Gly Leu Leu Gly Pro Asn Gly Ala Gly Lys Thr Thr Ala Phe Tyr Gln
        35                  40                  45
Thr Val Gly Leu Ile Arg Pro Asp Ser Gly Lys Ile Leu Phe Lys Asn
    50                  55                  60
Thr Asp Ile Thr Lys Lys Pro Met Asp Tyr Arg Ala Arg Leu Gly Ile
65                  70                  75                  80
Gly Tyr Leu Ala Gln Glu Pro Thr Ile Phe Lys Glu Leu Thr Val Lys
                85                  90                  95
Glu Asn Leu Ile Cys Val Leu Glu Ile Ile Tyr Lys Thr Arg Lys Glu
            100                 105                 110
Gln Thr His Leu Leu Asn Ala Leu Ile Asp Asp Leu Gln Leu Thr Thr
        115                 120                 125
Ser Leu His Lys Lys Ala Gly Ser Leu Ser Gly Gly Glu Arg Arg Arg
    130                 135                 140
Leu Glu Ile Ala Cys Val Leu Ala Leu Asn Pro Ser Val Leu Leu Leu
145                 150                 155                 160
Asp Glu Pro Phe Ala Asn Val Asp Pro Leu Val Ile Gln Asn Val Lys
                165                 170                 175
Tyr Leu Ile Lys Ile Leu Ala Ser Arg Gly Ile Gly Ile Leu Ile Thr
            180                 185                 190
Asp His Asn Ala Lys Glu Leu Leu Ser Ile Ala Asp Arg Cys Tyr Leu
        195                 200                 205
Ile Ile Asp Gly Lys Ile Phe Phe Glu Gly Ser Ser Ala Gln Met Ile
    210                 215                 220
```

Ala Asn Pro Met Val Arg Gln His Tyr Leu Gly Asp Ser Phe Ser
225 230 235

<210>775
<211>377
<212>PRT
<213>Chlamydia trachomatis
<400>775
Ile Gly Gly Thr Phe Pro Arg Thr Pro Leu Ile Phe Glu Glu Ile Ala
1 5 10 15
Leu Leu Ser Glu Glu Gln Asn Gln Val Leu Lys Thr Val Leu Asn Ser
20 25 30
Cys Phe Ser Leu Val Cys Gly Gly Pro Gly Thr Gly Lys Thr Phe Leu
35 40 45
Ala Val Gln Met Ile Xaa Leu Ile Leu Ala Gln Ile Pro Ser Ala Gln
50 55 60
Ile Met Val Ala Ser Pro Thr Gly Lys Ala Ser Ala His Leu His Ser
65 70 75 80
Val Leu Thr Ser Gln Gly Ile Val Gly Asp Ser Val Glu Val Val Thr
85 90 95
Ile His Lys Phe Leu Lys Asp Met Arg Arg Gly Arg Ser Pro Val Asp
100 105 110
Leu Leu Leu Val Asp Glu Gly Ser Met Val Thr Met Asn Leu Leu His
115 120 125
Gly Leu Ile Lys Thr Ile Arg Gly Glu Ser Arg Gly Glu Thr Ile Tyr
130 135 140
Ala Asp Arg Met Val Ile Phe Gly Asp Ala Asn Gln Leu Ser Pro Ile
145 150 155 160
Gly Ile Gly Val Gly Asn Pro Phe His Glu Val Val Ser Glu Phe Ser
165 170 175
Lys Gln Ala Cys Phe Leu Ser Thr Ser His Arg Ala Lys His Lys Glu
180 185 190
Leu Gln Glu Leu Ala Ser Ala Val Leu Arg Lys Glu Leu Ile Pro Phe
195 200 205
Gln Pro Leu Pro Ser Arg Gln Glu Ala Ile Arg Arg Leu Ser Phe Ala
210 215 220
Phe Thr Gln Ala Ala Lys Glu Gly Val Ser Leu Cys Ala Leu Thr Pro
225 230 235 240
Met Arg Gln Gly Leu Trp Gly Phe Leu Gln Leu Asn Arg Leu Leu Phe
245 250 255
Asn Glu Met Gln Glu Lys His Pro Arg Ala Pro Ile Pro Ile Ile Val
260 265 270
Thr Glu Arg Tyr Glu Thr Trp Gly Leu Thr Asn Gly Asp Thr Gly Val
275 280 285
Leu Asp Pro Val Thr Glu Gln Leu Arg Phe Met Asn Gly Glu Ile Leu
290 295 300
His Gln Ala Asp Phe Pro Tyr Tyr Ser Tyr Asn Tyr Val Met Ser Val
305 310 315 320
His Lys Ser Gln Gly Ser Glu Tyr Asp Arg Val Ile Val Ile Leu Pro
325 330 335
Lys Gly Ser Glu Val Phe Asp Ser Ala Ile Leu Tyr Thr Ala Ile Thr
340 345 350
Arg Thr Lys Gln His Val Glu Ile Trp Ala Asp Arg Glu Ala Leu Glu
355 360 365
Ala Ile Ile Leu Lys Arg Gly Arg Tyr
370 375

<210>776
<211>140
<212>PRT
<213>Chlamydia trachomatis
<400>776
Ile His Ser Thr Thr Ala Lys Arg Lys Ile Phe Pro Val Asn Val Asn

```
  1               5                  10                  15
Gln His Val Gln Asp Ile Val Pro Ser Leu Leu Ala Gln His Ile Leu
            20                  25                  30
Leu Pro Phe Asp Ile Ala Phe Ala Gln Lys His Leu Ser Gln Glu Glu
        35                  40                  45
Phe Ser Gln Glu Ala Glu Ala Phe Leu Ala Thr Ala Ser Ala Leu Leu
    50                  55                  60
Arg Cys Gly Tyr Pro Tyr Phe Ser Ile Cys Asp Glu Thr Ile His Pro
65                  70                  75                  80
Thr Leu Pro Gly Ile Ser Asn Lys Gln Leu Phe Gln Trp Phe Gln Leu
                85                  90                  95
Leu Ser Ser Arg Ile Lys Glu Glu Leu Phe Glu Val Val Asn His Lys
            100                 105                 110
Ile Tyr Leu Arg Ser Leu Phe Leu Leu Arg Glu Lys Val Phe His Lys
        115                 120                 125
Leu His Arg Leu Ala Gly Arg Phe His Val His Leu
    130                 135                 140
<210>777
<211>416
<212>PRT
<213>Chlamydia trachomatis
<400>777
Lys Leu Ile Gly Ala Arg Arg Tyr Ala Glu Gly Arg Ile Val Ile Asn
  1               5                  10                  15
Ser Ile Phe Asn Lys Ile Phe Ser Arg Glu Tyr Ala Trp Ser Val Asp
            20                  25                  30
Met Tyr Asn Arg Leu Val Leu Met Leu Gly Gln Ser Tyr Leu Leu Glu
        35                  40                  45
Leu Gln Glu Gly Val Arg Ser Asp Leu Leu Pro Glu Tyr Tyr Glu Thr
    50                  55                  60
Ile Leu Phe Tyr Gln Lys Gln Met Lys Gly Phe Asp Ala Gly Ala Tyr
65                  70                  75                  80
Lys Thr Phe Phe Pro Glu Ser Met Leu Val Pro Thr Ile Met Gln His
                85                  90                  95
Ile Phe Val Ile Pro Glu Thr Gln Leu Pro Leu Phe Met Asp Ala Leu
            100                 105                 110
Leu Met Trp Glu Asn Ser Tyr Val His Pro Asp Tyr Ser Leu Val Leu
        115                 120                 125
Glu Arg Met Lys Pro Ala Val Leu Gln Asp Gly Ile His Thr Gln Lys
    130                 135                 140
Ile Cys Gln Ala Ile Ala Asp Ser Lys Ile Lys Lys Leu Lys Glu Lys
145                 150                 155                 160
Leu Ile Glu Leu Phe Ser Asp Glu Leu Val Phe Cys Val Ser Gln Gly
                165                 170                 175
Asn Thr Val Cys Ala Asp Gln Tyr Leu Ala Leu Leu Lys Thr Leu Asp
            180                 185                 190
Pro Arg Ser Ser Trp Gly His Lys Leu Leu Leu Ser Glu Lys Glu Ile
        195                 200                 205
Val Asn Met Val Cys Glu Asp Asp Ala Gln Tyr Ser Arg Leu Lys Asp
    210                 215                 220
Tyr Leu Leu Leu Trp Glu Glu Gln Asp Ile Ala Asp Val Asp Arg Gln
225                 230                 235                 240
Gln Leu Val His Tyr Leu Phe Phe Ser Ala Lys His Leu Trp Arg Gly
                245                 250                 255
Gly Gln Glu Glu Ala Cys Leu Arg Leu Leu Lys Glu Ile Leu Leu Phe
            260                 265                 270
Ser Gln Asn Glu Lys Ala Cys Leu Asn Arg Thr Leu Arg Leu Val Lys
        275                 280                 285
Asp Phe Tyr Thr Gln Ala Leu Ala Met Arg Asn Phe Thr His Leu Val
    290                 295                 300
Trp Ile Glu Asn Phe Leu Asp Glu Val Gly Leu Pro Lys Thr Leu Ala
```

```
305                 310                 315                 320
Ser Asp Ala Glu Ile Ala Asn Cys Leu Ala Asp Ala Gln Tyr Leu Phe
                325                 330                 335
Ser Lys Gly Asp Tyr Arg Leu Cys Ile Val Tyr Ser Ser Trp Leu Ala
            340                 345                 350
Arg Val Ala Pro Ser Thr Glu Ala Leu Gln Leu Leu Gly Leu Ser Leu
        355                 360                 365
Val Glu Gln Lys Glu Tyr Thr Glu Ala Leu Glu Val Phe Gln Lys Leu
    370                 375                 380
Pro Leu Gly Glu Asp Ala Trp Asn Ser Gln Val His Lys Ala Ser Leu
385                 390                 395                 400
Leu Cys Tyr Lys Tyr Ile Ala Arg Gln Gln Lys Glu Lys Ser Phe Pro
                405                 410                 415
```

<210>778
<211>193
<212>PRT
<213>Chlamydia trachomatis
<400>778

```
Val Val Arg Val Phe Leu Leu Val Val Phe Leu Leu Ser Cys Phe Ser
  1               5                  10                  15
Ala Gly Gly Arg Ser Tyr Val Phe Phe Ser Ser Arg Asp Asp Ser Pro
             20                  25                  30
Ser His Tyr Asp His Thr His Arg Thr Val Ala Arg Leu Arg Glu Gly
         35                  40                  45
Ser Thr Leu Ser Glu Gly Leu Ser Met Glu Gln Glu Gln Met Tyr Leu
     50                  55                  60
Leu Cys Cys Gln Gly Phe Ser Leu Gln Ile Gln Arg Lys Phe Gln Glu
 65                  70                  75                  80
Ser Lys Glu Ile Phe Ser Arg Ile Asp Lys Arg Lys Thr Ser Ala Pro
                 85                  90                  95
Phe Val Leu Gln Arg Glu Leu Leu Glu Gly Arg Ile Leu Asn Ala Tyr
            100                 105                 110
Phe Leu Asn Asn Leu Ser Leu Met Ala Glu Cys Ile Ala Glu Leu Glu
        115                 120                 125
Arg Val Ser Gly Ser Glu Ala His Leu Leu Phe Phe Lys Ala Leu His
    130                 135                 140
Ala His Arg Thr Lys Gln Tyr Asn Leu Ala Val Asp Val Leu Ser Arg
145                 150                 155                 160
Trp Phe Gly His Val Asp Gln Thr Lys Pro Leu Cys Leu Asp Thr Asn
                165                 170                 175
Val Tyr Glu Leu Phe Ser Pro Tyr Val Leu Glu Glu Ile Ala Ala Glu
            180                 185                 190
Ser
```

<210>779
<211>386
<212>PRT
<213>Chlamydia trachomatis
<400>779

```
Leu Ser Leu Lys Tyr Cys Lys Leu Thr Pro Arg Asn Ile Arg Gly Arg
  1               5                  10                  15
Arg Trp Gln Pro Leu Lys Val Glu Ser Ser Arg Gln Arg Asn Lys Gly
             20                  25                  30
Val Tyr Met Ser Val Pro Asp Arg Lys Arg Ala Leu Glu Ala Ala Ile
         35                  40                  45
Ala Tyr Ile Glu Lys Gln Phe Gly Ala Gly Ser Ile Met Ser Leu Gly
     50                  55                  60
Lys His Ser Ser Ala His Glu Ile Ser Thr Ile Lys Thr Gly Ala Leu
 65                  70                  75                  80
Ser Leu Asp Leu Ala Leu Gly Ile Gly Gly Val Pro Lys Gly Arg Ile
                 85                  90                  95
```

```
Val Glu Ile Phe Gly Pro Glu Ser Ser Gly Lys Thr Thr Leu Ala Thr
            100                 105                 110
His Ile Val Ala Asn Ala Gln Lys Met Gly Gly Val Ala Ala Tyr Ile
        115                 120                 125
Asp Ala Glu His Ala Leu Asp Pro Asn Tyr Ala Ala Leu Ile Gly Ala
    130                 135                 140
Asn Ile Asn Asp Leu Met Ile Ser Gln Pro Asp Cys Gly Glu Asp Ala
145                 150                 155                 160
Leu Ser Ile Ala Glu Leu Leu Ala Arg Ser Gly Ala Val Asp Val Ile
                165                 170                 175
Val Ile Asp Ser Val Ala Ala Leu Val Pro Lys Ser Glu Leu Glu Gly
            180                 185                 190
Glu Ile Gly Asp Val His Val Gly Leu Gln Ala Arg Met Met Ser Gln
        195                 200                 205
Ala Leu Arg Lys Leu Thr Ala Thr Leu Ala Arg Thr Asn Thr Cys Ala
    210                 215                 220
Ile Phe Ile Asn Gln Ile Arg Glu Lys Ile Gly Val Ser Phe Gly Asn
225                 230                 235                 240
Pro Glu Thr Thr Thr Gly Gly Arg Ala Leu Lys Phe Tyr Ser Ser Ile
                245                 250                 255
Arg Ile Asp Ile Arg Arg Ile Gly Ser Ile Lys Gly Gly Glu Asn Phe
            260                 265                 270
Asp Ile Gly Asn Arg Ile Lys Val Lys Val Ala Lys Asn Lys Leu Ala
        275                 280                 285
Pro Pro Phe Arg Thr Ala Glu Phe Asp Ile Leu Phe Asn Glu Gly Ile
    290                 295                 300
Ser Ser Ala Gly Cys Ile Ile Asp Leu Ala Val Glu Lys Asn Ile Ile
305                 310                 315                 320
Asp Lys Lys Gly Ser Trp Phe Asn Tyr Gln Asp Arg Lys Leu Gly Gln
                325                 330                 335
Gly Arg Glu Ala Val Arg Glu Glu Leu Lys Arg Asn Lys Glu Leu Phe
            340                 345                 350
His Glu Leu Glu Arg Arg Ile Tyr Glu Ser Val Gln Ala Ser Gln Ala
        355                 360                 365
Pro Ala Ala Ala Cys Val Asp Ser Glu Ser Arg Glu Val Ala Glu Ala
    370                 375                 380
Ala Lys
385
<210>780
<211>178
<212>PRT
<213>Chlamydia trachomatis
<400>780
Met Lys Asn Ile Val Glu Gln Lys Arg Cys Leu Arg Arg Glu Gly Leu
  1               5                  10                  15
Ala Lys Arg Glu Gln Leu Ser Val Gln Arg Arg Asp Glu Ala Ala Arg
            20                  25                  30
Glu Leu Met His Phe Val Met Gln Thr Ile Xaa Gln Gly Phe Val Leu
        35                  40                  45
Ser Tyr Ile Pro Phe Arg Ser Glu Leu Asp Val Arg Gly Ile Asn Ala
    50                  55                  60
Trp Leu Ala Gln Glu Asn Arg Leu Leu Leu Pro Lys Met Gln Gly Met
65                  70                  75                  80
Asp Ile Val Pro Ile Ala Leu Pro Phe Thr Met Ile Glu Ser Leu Tyr
                85                  90                  95
Ser Pro Lys Asp Leu Asn Gln Ile Glu Gly Glu Glu Ile Glu Ala Gln
            100                 105                 110
Gln Ile Ala Ala Ala Leu Ile Pro Ala Ile Val Phe Asp Gln Asn Lys
        115                 120                 125
Phe Arg Leu Gly Tyr Gly Gly Gly Tyr Tyr Asp Arg Phe Leu Ser Lys
    130                 135                 140
```

Tyr Pro Tyr Ile Trp Thr Ile Gly Val Gly Phe Lys Glu Gln Leu Leu
145 150 155 160
Ala Tyr Leu Pro Arg Glu Glu His Asp Val Pro Leu Asp Gln Leu Tyr
165 170 175

Leu Thr

<210>781
<211>434
<212>PRT
<213>Chlamydia trachomatis
<400>781
Val Gly Arg Ser Arg Gly Gly Leu Gly Thr Met Cys Val Ser Arg Ser
1 5 10 15
Leu Arg Trp Cys Leu Cys Phe Leu Leu Leu Cys Gly Trp Val Asp Ala
20 25 30
Gly Val Tyr Asp Lys Leu Arg Leu Thr Gly Ile Asn Ile Ile Asp Arg
35 40 45
Asn Gly Leu Ser Glu Thr Ile Cys Ser Lys Glu Lys Leu Gln Lys Tyr
50 55 60
Thr Lys Ile Asp Phe Leu Ser Pro Gln Pro Tyr Gln Lys Val Met Arg
65 70 75 80
Thr Tyr Lys Asn Ala Ala Gly Glu Ser Val Ala Cys Leu Thr Thr Tyr
85 90 95
Tyr Pro Asn Gly Gln Ile Arg Gln Tyr Leu Glu Cys Leu Asn Asn Arg
100 105 110
Ala Phe Gly Arg Tyr Arg Glu Trp His Ser Asn Gly Lys Ile His Ile
115 120 125
Gln Ala Glu Val Ile Gly Gly Ile Ala Asp Leu His Pro Ser Ala Glu
130 135 140
Ala Gly Trp Leu Phe Asp Gly Thr Thr Tyr Ala His Asp Ser Glu Gly
145 150 155 160
Arg Leu Glu Ala Val Ile His Tyr Glu Lys Gly Leu Leu Glu Gly Ile
165 170 175
Ser Leu Tyr Tyr His Ala Asn Gly Asn Val Trp Lys Glu Cys Pro Tyr
180 185 190
His Lys Gly Val Ala His Gly Asp Phe Leu Val Phe Thr Glu Glu Gly
195 200 205
Ser Leu Leu Lys Lys Gln Thr Phe Cys Lys Gly Gln Leu Ser Gly Cys
210 215 220
Ala Leu Arg Tyr Glu Pro Gly Ser Gln Ser Leu Leu Ser Glu Glu Glu
225 230 235 240
Tyr Lys Gln Gly Lys Leu Arg Ser Gly Lys Tyr Tyr Asp Pro Leu Thr
245 250 255
Lys Glu Glu Ile Ala Cys Val Val Asn Gly Lys Gly Lys Gln Val Ile
260 265 270
Tyr Gly Lys Tyr Ala Ile Ile Glu Thr Arg Gln Ile Val His Gly Val
275 280 285
Pro His Gly Glu Val Leu Leu Phe Asp Glu His Gly Lys Ser Leu Leu
290 295 300
Gln Ala Tyr Ser Leu Ile Asn Gly Gln Lys Glu Gly Glu Glu Val Phe
305 310 315 320
Phe Tyr Pro Gly Gly Glu Gly Arg Lys Met Leu Leu Thr Trp Ser Gln
325 330 335
Gly Ile Leu Gln Gly Ala Val Lys Thr Trp Tyr Pro Asn Gly Ala Leu
340 345 350
Glu Ser Ser Lys Glu Leu Val Gln Asn Lys Lys Thr Gly Ile Leu Met
355 360 365
Leu Tyr Tyr Pro Glu Gly Gln Val Met Ala Thr Glu Glu Tyr Val Asp
370 375 380
Asp Leu Leu Ile Lys Gly Glu Tyr Phe Arg Pro Asn Asp Arg Tyr Pro
385 390 395 400

Tyr Ala Lys Val Glu Lys Gly Ser Gly Thr Ala Val Phe Phe Ser Ala
405 410 415
Thr Gly Gly Leu Leu Lys Lys Val Leu Tyr Glu Asp Gly Lys Pro Val
420 425 430
Ile His

<210>782
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>782
Glu Arg Lys Thr Met Gly Ile Trp Val Tyr Leu Gly Ser Asn Asn His
1 5 10 15
Asn Asn Thr Gly Met Ser Ser Ser Ser Ile Trp Ser Ser Phe Trp Lys
20 25 30
Glu Asn Asn Val Leu Phe Ser Pro Lys Val Cys Ser Cys His Asp Lys
35 40 45
Arg Leu Ser Ser Lys Lys Ala Phe Arg Ser Leu Thr Ala Arg Leu Leu
50 55 60
Thr Thr Gln Ala Val Ala Gly Ser Leu Ala Arg Ala Ser Arg Ser Leu
65 70 75 80
Phe Lys Lys Thr Arg Phe Ser Pro Trp Ala Ile Gln Leu Gly Lys Leu
85 90 95
Ala Cys Leu Cys Ala Ala Phe Ser Arg Ala Phe Leu Ile Ala Thr
100 105 110
<210>783
<211>159
<212>PRT
<213>Chlamydia trachomatis
<400>783
Cys Thr Asn Arg Ser Ala Arg Glu Gly Ile Met Arg Arg Leu Gly Val
1 5 10 15
Trp Val Leu Leu Leu Leu Ala Ser Gly Ala Ala Ser Leu Pro Ala Ile
20 25 30
Gly Ala Trp Cys Trp Arg Gln Arg Thr Ala Glu Ala Trp Glu Asn Leu
35 40 45
Leu Ile Asp Met Arg Asp Phe Gln Ser Lys Arg Glu Arg Ser Ser Gln
50 55 60
Val Ala Ile Lys Asn Ala Arg Leu Lys Ala Ala His Lys Gln Ala Ser
65 70 75 80
Phe Pro Asn Trp Ile Ala Gln Gly Glu Asn Leu Val Phe Leu Asn Lys
85 90 95
Glu Arg Asp Ala Leu Ala Lys Leu Pro Ala Thr Ala Trp Val Val Arg
100 105 110
Ser Arg Ala Val Lys Asp Arg Lys Ala Phe Leu Glu Asp Asn Arg Leu
115 120 125
Ser Trp Gln Glu Gln Thr Leu Gly Glu Lys Ser Thr Leu Phe Ser Phe
130 135 140
Gln Lys Glu Leu Gln Ile Asp Asp Glu Asp Ile Pro Val Leu Leu
145 150 155
<210>784
<211>97
<212>PRT
<213>Chlamydia trachomatis
<400>784
Ile Pro Pro Thr Val Pro Thr Asn Gln Glu Val Met Glu Val Leu Gly
1 5 10 15
Arg Met Thr Ala Asn Leu Pro Ser Val Ser Phe Ser His Tyr Leu Tyr
20 25 30
Lys Leu Glu Asp Ile Pro Ser Glu Glu Arg Pro Leu Gly Gly Tyr Arg
35 40 45

Ala Tyr Ile Ser Leu Gln Gly Ala Ala Asn Asp Glu Asp Phe Ala Ser
50 55 60
Phe Ile Asp Gln Leu Ser Ala Trp Ile Gly Ala Arg Val Leu Ser Lys
65 70 75 80
Lys Leu Ala Asp Arg Gln Phe Asp Val Arg Ile Ala Leu Gln Gly Arg
85 90 95
Gly

<210>785
<211>227
<212>PRT
<213>Chlamydia trachomatis
<400>785
Met Asp Phe Lys Leu Pro Ile Tyr Cys Ile Gly Val Thr Gln Ser Ala
1 5 10 15
Glu Asn Val Thr Arg Ile Ala Ile Leu Gln Lys Thr Cys Lys Gly Trp
20 25 30
Ser Leu Cys Arg Cys Glu Lys Leu Thr Glu Thr Gly Ala Leu Ser Trp
35 40 45
Pro Lys Arg Phe Leu Ser Ser Lys Val Val Leu Ser Leu Gln Gly Gln
50 55 60
Glu Thr Leu Val Lys Ser Val Ser Ser Ser Leu Lys Ser Lys Lys Asn
65 70 75 80
Phe Leu Lys Met Val Tyr Ala Glu Gln Glu Ala Thr Ala Ala Phe Pro
85 90 95
Leu Lys Asp Leu Val Ile Ala His Asp Leu Gly Glu Trp Asn Ser Ala
100 105 110
Gln Glu Arg Val Val Thr Leu Trp Met Leu Gln Arg Gln Ser Val Ala
115 120 125
Leu Ala Thr Ala Leu Leu Glu Glu Lys Gly Gly Phe Ala Thr His Ile
130 135 140
Ser Cys Arg Ala Lys Asp Leu Phe Ser Ala Leu Gln Gln Ser Leu Leu
145 150 155 160
Arg Asn Leu Glu Thr Tyr Phe Phe Val Tyr Glu Gly Leu Asp Glu Thr
165 170 175
Val Cys Leu Phe Val Gln Glu Gly Ser Val Leu Leu Ser Arg Ser Phe
180 185 190
Lys Asn Asp Ser Glu Ser Leu Leu Asp Asp Leu Leu Ala Ser Phe Ala
195 200 205
Tyr Val Gln Glu Val Tyr Thr Ala Ser Phe Ile Arg Asp Pro Arg Arg
210 215 220
Leu Ser Ile
225
<210>786
<211>334
<212>PRT
<213>Chlamydia trachomatis
<400>786
Met Ala Pro Ser Ile Phe Ile Lys Asn Leu Pro Leu Lys Ser Pro Val
1 5 10 15
Val Tyr Ala Pro Leu Ala Gly Phe Ser Asp Phe Pro Tyr Arg Arg Met
20 25 30
Ser Ala Glu Tyr Arg Pro Ala Leu Met Phe Cys Glu Met Val Lys Met
35 40 45
Glu Gly Leu His Tyr Cys Pro Gln Arg Thr Leu Arg Leu Leu Asp Phe
50 55 60
Ala Glu Ser Met Arg Pro Ile Gly Gly Gln Leu Cys Gly Ser Arg Pro
65 70 75 80
Asp Leu Ala Gly Glu Ser Ala Lys Ile Leu Glu Gly Leu Gly Phe Asp
85 90 95
Leu Ile Asp Leu Asn Cys Gly Cys Pro Thr Asp Arg Ile Thr Lys Asp

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            100                 105                 110
Gly Ser Gly Ser Gly Met Leu Lys Thr Pro Glu Leu Ile Gly Lys Val
        115                 120                 125
Val Glu Lys Met Val Glu Val Val Ser Val Pro Val Thr Val Lys Ile
    130                 135                 140
Arg Ser Gly Trp Asp Phe Asp His Ile Asn Val Glu Glu Thr Val Arg
145                 150                 155                 160
Ile Ile Lys Glu Ser Gly Ala Ser Ala Val Phe Val His Gly Arg Thr
                165                 170                 175
Arg Ser Gln Gly Tyr Gln Gly Pro Ser Asn Leu Glu Phe Ile Ser Arg
            180                 185                 190
Ala Lys Gln Ala Ala Gly Asp Asp Phe Pro Val Phe Gly Asn Gly Asp
        195                 200                 205
Val Phe Ser Pro Glu Ala Ala Lys Thr Met Leu Glu Thr Thr His Cys
    210                 215                 220
Asp Gly Val Leu Val Ala Arg Gly Thr Met Gly Ala Pro Trp Ile Gly
225                 230                 235                 240
Lys Gln Ile Glu Asp Tyr Leu Thr Thr Gly Thr Tyr Ser Ser Pro Ser
                245                 250                 255
Phe Ser Thr Arg Lys Gln Ala Phe Val Gln His Leu Gln Trp Ile Glu
            260                 265                 270
Glu Tyr Tyr Gln Ser Glu Glu Lys Leu Leu Thr Asp Thr Arg Lys Leu
        275                 280                 285
Cys Gly His Tyr Leu Ile Leu Ser Pro Lys Val Arg Ser Leu Arg Ala
    290                 295                 300
Asn Leu Ala Lys Ala Ser Ser Ser Gln Glu Val Tyr Gln Leu Ile Asp
305                 310                 315                 320
Gly Phe Glu Glu Leu Thr Glu Glu Glu Glu Leu Leu Ser Glu
                325                 330
```

<210>787
<211>265
<212>PRT
<213>Chlamydia trachomatis
<400>787

```
Asn Arg Leu Ser Lys Cys His Lys Gly Lys Leu Val Lys Ile Trp Ala
  1               5                  10                  15
Lys Asn Arg Tyr Phe Phe Gly Cys Ser Glu Tyr Pro Thr Cys Asp Tyr
            20                  25                  30
Lys Thr Ser Glu Glu Glu Leu Thr Phe Asp Lys Asn Glu Tyr Ala Glu
        35                  40                  45
Asp Thr Pro Trp Asp Ala Pro Cys Ala Leu Cys Gly Gly Glu Met Lys
    50                  55                  60
Val Arg His Gly Lys Phe Gly Ser Phe Leu Gly Cys Glu Asn Tyr Pro
65                  70                  75                  80
Lys Cys His Tyr Ile Val Asn Leu Phe Lys Lys Gly Glu Ala Gly Ala
                85                  90                  95
Glu Pro Glu Ala Thr Val His Cys Pro Ala Glu Gly Cys Thr Gly His
            100                 105                 110
Leu Val Lys Arg Arg Ser Arg Phe Asn Lys Met Phe Tyr Ser Cys Ser
        115                 120                 125
Glu Tyr Pro Ala Cys Ser Val Ile Gly Asn Ser Val Asp Ala Val Ile
    130                 135                 140
Glu Lys Tyr Ala Gly Thr Pro Lys Thr Pro Tyr Glu Lys Lys Pro Lys
145                 150                 155                 160
Ala Lys Lys Ser Ile Ala Ser Thr Lys Gly Lys Ala Ala Lys Thr Val
                165                 170                 175
Lys Lys Ser Ser Ala Thr Thr Lys Lys Arg Ala Thr Lys Ala Tyr Thr
            180                 185                 190
Pro Ser Ala Ala Leu Ala Gly Val Ile Gly Ala Asp Pro Val Gly Arg
        195                 200                 205
Pro Glu Ala Thr Lys Lys Leu Trp Glu Tyr Ile Lys Glu Lys Gly Leu
```

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    210                 215                 220
Gln Ser Pro Gln Asn Lys Lys Ile Ile Ile Pro Asp Ser Lys Leu Gln
225                 230                 235                 240
Gly Val Ile Gly Ala Asp Pro Ile Asp Met Phe Ala Leu Ser Lys Lys
                245                 250                 255
Leu Ser Ala His Leu Ile Lys Glu Glu
            260                 265
```

<210>788
<211>615
<212>PRT
<213>Chlamydia trachomatis
<400>788

```
Leu Cys Glu Arg Leu Arg Ser Arg Leu Leu Ala Leu Cys Met Lys Lys
  1               5                  10                  15
Ser Leu Ile Ile Val Glu Ser Pro Ala Lys Ile Lys Thr Leu Arg Lys
            20                  25                  30
Leu Leu Gly Glu Gly Phe Ile Phe Asp Ser Ser Leu Gly His Ile Val
        35                  40                  45
Asp Leu Pro Ala Lys Gly Phe Gly Ile Asp Ile Glu Asn Gly Phe Val
    50                  55                  60
Pro Asp Tyr Gln Ile Leu Glu Gly Lys Glu Glu Val Ile Arg Lys Ile
65                  70                  75                  80
Cys Ala Glu Ala Lys Lys Cys Asp Val Val Tyr Leu Ala Pro Asp Pro
                85                  90                  95
Asp Arg Glu Gly Glu Ala Ile Ala Trp His Ile Ala Asn Gln Leu Pro
            100                 105                 110
Lys Asp Thr Lys Ile Gln Arg Ile Ser Phe Asn Ala Ile Thr Lys Gly
        115                 120                 125
Ala Val Thr Glu Ala Leu Lys His Pro Arg Glu Ile Asp Met Ala Leu
    130                 135                 140
Val Asn Ala Gln Gln Ala Arg Arg Phe Leu Asp Arg Ile Val Gly Tyr
145                 150                 155                 160
Lys Ile Ser Pro Ile Leu Gly Arg Lys Leu Gln Arg Trp Ser Gly Val
                165                 170                 175
Ser Ala Gly Arg Val Gln Ser Val Ala Leu Lys Leu Val Val Asp Arg
            180                 185                 190
Glu Tyr Ala Ile Glu Arg Phe Val Pro Val Glu Phe Trp Asn Ile Arg
        195                 200                 205
Val His Leu Lys Asp Pro Gln Thr Gln Lys Thr Phe Trp Ala His Leu
    210                 215                 220
His Ser Val Asn Gly Lys Lys Trp Glu Lys Glu Ile Pro Glu Gly Lys
225                 230                 235                 240
Thr Ser Asp Glu Val Ile Leu Ile Asp Ser Lys Glu Lys Ala Asp Glu
                245                 250                 255
Ile Val Ala Leu Leu Glu Ser Ala Thr Tyr Val Val Asp Arg Val Glu
            260                 265                 270
Ser Lys Glu Lys Lys Arg His Ala Tyr Pro Pro Phe Ile Thr Ser Thr
        275                 280                 285
Leu Gln Gln Glu Ala Ser Arg His Tyr Arg Phe Ser Ser Ser Arg Thr
    290                 295                 300
Met Asn Ile Ala Gln Thr Leu Tyr Glu Gly Val Asp Leu Asp Ser Gln
305                 310                 315                 320
Gly Ala Val Gly Leu Ile Thr Tyr Met Arg Thr Asp Ser Val Arg Thr
                325                 330                 335
Asp Pro Glu Ala Val Lys Gln Val Arg Lys Tyr Ile Glu Gly His Phe
            340                 345                 350
Gly Lys Glu Phe Val Pro Ser Ser Pro Asn Val Tyr Ala Thr Lys Lys
        355                 360                 365
Met Ala Gln Asp Ala His Glu Ala Ile Arg Pro Thr Asp Val Thr Ile
    370                 375                 380
Thr Pro Glu Ser Ile Arg Ser Lys Leu Thr Glu Asp Gln Tyr Lys Leu
```

385 390 395 400
Tyr Ser Leu Ile Trp Lys Arg Phe Val Ala Ser Gln Met Ile Ser Ala
405 410 415
Ile Tyr Asp Thr Leu Ala Ile Arg Ile Thr Thr Asn Lys Gly Ile Asp
420 425 430
Leu Arg Ala Thr Gly Ser Cys Leu Lys Phe Lys Gly Phe Leu Ala Val
435 440 445
Tyr Glu Glu Lys Arg Asp Glu Glu Gly Asp Glu Glu Glu Asn Ile His
450 455 460
Leu Pro Lys Leu Asn Glu Arg Asp Val Leu Thr Lys Glu Glu Leu Glu
465 470 475 480
Ala Glu Gln Ser His Thr Lys Pro Leu Pro Arg Phe Thr Glu Ala Ser
485 490 495
Leu Val Lys Glu Leu Glu Lys Ser Gly Ile Gly Arg Pro Ser Thr Tyr
500 505 510
Ala Thr Ile Met Asn Lys Ile Gln Ser Arg Glu Tyr Thr Leu Lys Glu
515 520 525
Gly Gln Arg Leu Arg Pro Thr Glu Leu Gly Lys Val Val Cys Gln Phe
530 535 540
Leu Glu Thr Asn Phe Pro Arg Ile Met Asp Ile Gly Phe Thr Ala Gly
545 550 555 560
Met Glu Asp Glu Leu Glu Leu Ile Ala Asp Asn Lys Lys Pro Trp Lys
565 570 575
Gln Leu Leu Gln Glu Phe Cys Glu Leu Phe Leu Pro Phe Val Val Thr
580 585 590
Ala Glu Lys Glu Ala Phe Ile Pro Arg Ile Val Thr Glu Ile Asp Cys
595 600 605
Pro Asn Val Ile Lys Gly Asn
610 615

<210>789
<211>348
<212>PRT
<213>Chlamydia trachomatis
<400>789
Val Phe Pro Gly Pro Asn Asp Ile Gly Ser Gln Glu Asn Val Lys Asp
1 5 10 15
Ile Cys Ser Leu Asp Pro Thr Asn Tyr Val Asn Ser Ser Cys Tyr Ser
20 25 30
Arg Ser Phe Pro His Gln Pro Ile Gly Thr Pro Leu Phe Phe Gly Lys
35 40 45
Lys Pro Val Leu Thr Tyr Gly Glu Val Ser Lys Leu Ile Ser Ser Lys
50 55 60
Thr Asp Pro Glu Pro Phe Ser Tyr Cys Arg Pro Thr Phe Leu Arg Ala
65 70 75 80
Ala Leu Asn Thr Leu Glu Phe Leu Ser Ser Pro Pro Ser Ser Asp Pro
85 90 95
Tyr Asp Asp Leu Leu Gln Leu Asn Lys Glu Gly Phe Leu Ala Gly Pro
100 105 110
Glu Glu Glu Lys Gln Ala Phe Phe Leu Arg Val Glu Arg Thr Leu Ala
115 120 125
Glu Ala Pro Val His Pro Thr Pro Phe Pro Ile Glu Phe Gln Lys Leu
130 135 140
Phe Asp Val Asn Pro Ser Phe Leu Glu Val Val Tyr Ser Asn Glu Ser
145 150 155 160
Leu Asp Ala Trp Glu Ala Gly Cys Thr Trp Ile Thr Asp Asn Arg Val
165 170 175
Ser Ile Gln Leu Arg Lys Gly Phe Gln Lys Ala Ser Phe Trp Phe Gly
180 185 190
Phe Phe Ser Lys Glu Glu Val Leu Ser His Glu Ala Val His Ala Val
195 200 205
Arg Met Lys Phe Tyr Glu Pro Ile Phe Glu Glu Val Leu Ala Tyr Ser

```
    210                 215                 220
Thr Ser Lys His Phe Trp Arg Arg Phe Phe Gly Pro Leu Phe Arg Ser
225                 230                 235                 240
Ala Gly Glu Thr His Phe Phe Leu Phe Phe Val Leu Phe Gly Ala Phe
                245                 250                 255
Leu Phe Pro Trp Phe Pro Trp Ile Gly Leu Ser Cys Ile Leu Ala Pro
            260                 265                 270
Asn Met Phe Phe Phe Phe Arg Leu Phe Arg Thr Gln Ile Leu Phe Arg
        275                 280                 285
Lys Ala Lys Lys Lys Ile Arg Lys Leu Leu Gly Ile Glu Pro Leu Trp
    290                 295                 300
Val Leu Leu Arg Leu Thr Asp Arg Glu Ile Arg Leu Phe Ala Thr Gln
305                 310                 315                 320
Pro Leu Ala Val Ile Glu Asp Phe Ala Arg Lys Glu Lys Leu Lys Ser
                325                 330                 335
Val Arg Trp Arg Gln Ile Tyr Gln Ser Tyr Phe Thr
            340                 345
```

<210>790
<211>81
<212>PRT
<213>Chlamydia trachomatis
<400>790

```
Ile Asp Thr Leu Leu Ser Val Ile His Val His Pro Ala Ser Gln Ala
  1               5                  10                  15
Ser Lys Leu Ser Leu Glu Tyr Thr Thr Ser Lys Lys Glu Gly Phe Thr
            20                  25                  30
Ser Lys Ser Phe Trp Asn Ser Met Gly Lys Gly Val Gly Cys Thr Gly
        35                  40                  45
Ala Ser Ala Asn Val Leu Ser Thr Arg Arg Lys Lys Ala Cys Phe Ser
    50                  55                  60
Ser Ser Gly Pro Ala Arg Asn Pro Ser Leu Phe Asn Cys Asn Lys Ser
65                  70                  75                  80
Ser
```

<210>791
<211>497
<212>PRT
<213>Chlamydia trachomatis
<400>791

```
Pro Pro Phe Gln Val Val Trp Gln Ile Gly Phe Lys Arg Glu Met Ile
  1               5                  10                  15
Ile Leu Phe Thr Arg Val Ile Glu Ile Phe Cys Ala Ile Leu Gly Val
            20                  25                  30
Tyr Phe Phe His Ile His Ser Val Val Gly Gly Tyr Phe Val Leu Val
        35                  40                  45
Leu Met Ala Cys His Ser Ala Ile Phe Gly Pro Ala Lys Met Gly Ile
    50                  55                  60
Leu Pro Glu Met Leu Pro Ile Glu Glu Leu Ser Lys Ala Asn Gly Ala
65                  70                  75                  80
Met Thr Ala Ala Thr Tyr Ser Gly Ser Ile Leu Gly Ser Cys Leu Ala
                85                  90                  95
Pro Leu Met Val Asp Leu Thr Lys Asp Phe Val Thr Asn Ser Tyr Glu
            100                 105                 110
Leu Ser Ala Cys Phe Cys Val Val Ser Ser Val Leu Ser Leu Phe Ile
        115                 120                 125
Ala Leu Gly Ile Arg Ala Ser Asn Val Lys Asn Lys Gly Gln Lys Ile
    130                 135                 140
Ala Tyr Val Ser Phe Arg Asn Leu Trp Gln Val Phe Gln Glu Thr Arg
145                 150                 155                 160
Asn Ile Ala Tyr Leu Met Ile Ser Val Phe Leu Val Ala Phe Phe Leu
                165                 170                 175
```

Phe Val Gly Ala Tyr Val Gln Leu Gln Ile Ile Pro Phe Val Glu Phe
180 185 190
Thr Leu Gly Tyr Ser Lys His Tyr Gly Ala Tyr Leu Phe Pro Ile Val
195 200 205
Ala Val Gly Met Gly Val Gly Ser Tyr Met Ala Gly Trp Ile Ser Gly
210 215 220
Lys Asp Ile Lys Leu Gly Phe Ser Pro Leu Ala Ala Ile Gly Val Gly
225 230 235 240
Leu Ser Met Met Val Leu Cys Leu Leu Ser Phe Ser Ile Thr Ala Val
245 250 255
Leu Ile Leu Leu Phe Cys Leu Gly Leu Val Gly Gly Ile Tyr Gln Val
260 265 270
Pro Leu His Ala Tyr Ile Gln Phe Val Ser Pro Glu His Lys Arg Gly
275 280 285
Gln Val Leu Ala Leu Asn Asn Phe Leu Asp Phe Ser Gly Val Leu Leu
290 295 300
Ala Ala Gly Phe Val Arg Leu Leu Gly Ala Gly Leu Arg Leu Thr Pro
305 310 315 320
Asp Gln Ser Phe Leu Tyr Met Gly Ser Leu Val Val Cys Phe Ala Ile
325 330 335
Leu Ser Leu Trp Met Leu Lys Glu His Val Tyr Arg Leu Leu Leu Thr
340 345 350
Arg Val Leu Lys Arg Gln Leu Gly Thr Ser Phe Ser Ser Pro Lys Ala
355 360 365
Glu Glu Val Trp Cys Phe Phe Val Pro Ala Thr Ser Tyr Lys Glu Thr
370 375 380
Arg Arg Ile Leu Ala Leu Phe Pro Lys Thr Val Arg Ser Cys Val Phe
385 390 395 400
Ile Leu Asp Lys Ala Leu Gln Pro Gly Trp Thr Ser Tyr Leu Ile Pro
405 410 415
His Cys Val Pro Thr Ile Phe Ser Tyr Gly Val Glu Gly Gln Ala Phe
420 425 430
Ala Gln Trp Ile Asp Arg Gln Val Val Glu Val Lys Ala Leu Leu Lys
435 440 445
Arg Gln Pro Ser Leu Gly Val Val Cys Leu Gly Asn Gln Ala Gln Ser
450 455 460
Gln Phe Phe Phe Ser Gln Leu Gln Ala Ser Gly Leu Ala Val Gln Ser
465 470 475 480
Gly Thr Leu Val Gln Asp Ser Glu Leu Lys Tyr Ser Leu His Leu Ala
485 490 495

Asn

<210>792
<211>744
<212>PRT
<213>Chlamydia trachomatis
<400>792
Lys Lys Leu Ile Glu Ile Val Ile Tyr Asn Cys Lys Lys Met Cys Asn
1 5 10 15
Asp Gln Cys Thr Glu Arg Ser Phe Pro Arg Asn Asn Thr His Glu Cys
20 25 30
Lys Pro Met Asn Glu Leu Ser His Ser Gln Ser Thr Phe Ser Asn Tyr
35 40 45
Pro Glu Val Leu Leu Ala Lys Leu Ala Gln Asp Leu Phe Ser Ile Asn
50 55 60
Gln Thr Pro Met Thr Lys Arg Trp Ile Leu Val Pro Ser Ser Asp Thr
65 70 75 80
Asp His Trp Leu Arg Arg Glu Leu Val Lys Ala Ser Ser Asn His Ile
85 90 95
Phe Met Gly Thr His Ile Phe Ala Ser Phe Asp Ala Phe Val Lys Tyr
100 105 110

Leu Phe Thr Gly Thr Arg Leu Val Asp Leu Ser Thr Pro Asp His Ile
115 120 125
Thr Leu Pro Leu Thr Ile Tyr Asn Leu Leu Lys Glu Ser Ser Phe Asn
130 135 140
Ser Ser Ser Glu Val Ser Tyr Ser His Leu Gln Lys Leu Ser Ser Ile
145 150 155 160
Phe Lys Lys Phe Tyr Thr Phe Ser Gln Glu Pro Ser Thr Asn Asn Pro
165 170 175
Tyr Tyr Lys Asn Leu Phe Ala Gln Leu Lys Asp Ser Tyr Thr Pro Leu
180 185 190
Glu Thr Ile Phe Ser Ser Ile Leu Asp His Pro Pro Glu Tyr Pro Cys
195 200 205
Ser Leu His Ile Phe Gly Tyr Pro Gln Leu Pro Gln His Val Ala Ser
210 215 220
Phe Phe Val Ala Leu Gly Lys Tyr Phe Pro Val His Phe Tyr Cys Phe
225 230 235 240
Ser Pro Ser Ala Ala Tyr Phe Gly Asp Leu Leu Ser Asp Lys Ala Met
245 250 255
Ala Ala Leu Ser Pro Arg Ile Pro Glu Pro His Gln Glu Thr Trp Glu
260 265 270
Lys Tyr Val Leu Thr Asp Arg Leu Ala Leu Leu Ala Asn Leu Ala His
275 280 285
Lys Ser Gln Ser Leu Gln Asn Phe Phe Leu Asp Tyr Ser Val Pro Tyr
290 295 300
Glu Glu Leu Phe Gln Pro Tyr Glu Lys Leu Ser Ser Leu His Ile Val
305 310 315 320
Lys Asp Ser Phe Phe His Leu Gln Pro Ile Asp Gln Lys Leu Phe Ser
325 330 335
Asn Ser Pro Gln Thr Ile Phe Val Arg Gln Ala Pro Ser Ala Ser Arg
340 345 350
Glu Val His Gln Leu Phe Ser Leu Val Ser Gln Leu Leu His Ser Gly
355 360 365
Val Pro Ala Gln Glu Ile Phe Ile Leu Ser Ser Asn Leu Ser Lys Tyr
370 375 380
Glu Thr Leu Leu Arg Gly Ile Phe Glu Pro His Leu Pro Leu Tyr Leu
385 390 395 400
Thr Lys Thr Glu Lys Thr Gln Thr Arg Thr Leu Lys Asn Lys Leu Leu
405 410 415
Leu Val Val Thr Phe Leu Phe Ser Lys Gly Ser Leu Asn Asp Leu Leu
420 425 430
Arg Ile Leu Ser His Pro Asp Leu Leu Ser Pro Leu Glu Thr Thr Lys
435 440 445
Met Gly Phe Leu Thr His Lys Leu Thr His Tyr Trp Lys Ser Leu Ser
450 455 460
Gln Lys Asp Ser Pro Leu Thr Gln Leu Ile His Arg Ile Leu Asp Glu
465 470 475 480
Tyr Pro Phe Ile Asp Asp Thr Gly Ser Val Asn Glu Ala Glu Thr Trp
485 490 495
Glu Val Val Val Pro Leu Leu His Thr Leu Gln Gln Val Thr Ala Ser
500 505 510
Tyr Ile Glu Ser Lys Asp Lys Thr Tyr Glu Glu His Ser Arg Leu Ile
515 520 525
Phe Ser Ala Leu Glu Asn Ile Phe Phe Leu Ser Thr Glu Glu Tyr Ala
530 535 540
Leu Leu Val Ser Leu Ser Lys Thr Leu Gln Pro Phe Val Arg Ser Ser
545 550 555 560
Cys Ser Leu Thr Ile Phe Ile Glu Phe Cys Leu Asp Phe Leu Ser His
565 570 575
Ile Pro Gly His Ser Gln Leu Tyr Asn Gln Pro Gly Pro Phe Val Gly
580 585 590
Ser Leu Asn Ser Leu Ser Leu Ile Pro Lys Gly Tyr Thr Phe Ile Leu

595 600 605
Gly Ala Asn Lys Lys Asp His Ser Leu Asp Thr Ser Phe Leu Ile Asp
610 615 620
Pro Ser Leu Ile Gln Glu Asp Phe Leu Phe Ser Ser Thr Glu Asp Glu
625 630 635 640
Asp Asn Leu His Phe Leu Gln Thr Ile Val Ser Thr Lys His Gln Leu
645 650 655
His Ile Ser Tyr Leu Ser Ser Ser Lys Asn Pro Ala Leu Pro Ser Ser
660 665 670
Ala Leu Gln Asn Ile Cys Trp Met Leu Cys Leu Phe Lys Lys Asn Ile
675 680 685
Phe Leu Gly Asn Phe Met Leu Lys Lys Thr Phe Leu Leu Asn Arg Cys
690 695 700
Ile Ser Leu Thr Arg Phe Thr Thr Gly Trp Leu Lys Ser Pro Arg Tyr
705 710 715 720
Lys Thr Arg Pro His Pro Cys Leu Ser Leu Ile Gln Leu Arg Arg Tyr
725 730 735
Leu His Thr Tyr Pro Tyr Asn Ile
740

<210>793
<211>382
<212>PRT
<213>Chlamydia trachomatis
<400>793
Leu Ser Leu Phe Ile Gln Glu Ser Ser Ile Thr Glu Leu Cys Phe Ala
1 5 10 15
Lys His Leu Leu Asp Ala Val Pro Ile Gln Glu Glu His Leu Ser Gly
20 25 30
Lys Leu Tyr Ala Lys Glu Asn Phe Ser Ser Glu Pro Leu His Gln Ser
35 40 45
Tyr Gln Val Tyr Tyr Arg Met Ala Gln Val Ser Pro Leu Gln Asn Lys
50 55 60
Ala Pro Ser Leu Phe Lys Ser Asp Thr Thr Lys Thr Leu Pro Ser His
65 70 75 80
Leu Ser Leu Gln His Leu Ile Lys Ala Phe Lys Asp Pro Leu Asn Phe
85 90 95
Phe Leu Ser Thr Gln His Gly Phe Ser Phe His Pro Lys Ala Leu Phe
100 105 110
Ser Lys Ser Glu Lys Val Phe Pro Ser Pro His Asp Ala Lys Ala Phe
115 120 125
Trp Asn His Leu Leu Ser Ser Lys Thr Pro Leu Pro Thr Thr Asn Tyr
130 135 140
Leu Ser Ala Phe Thr Glu Ser Leu Tyr Thr Asp Val Gln Asp Ser Val
145 150 155 160
Ser Lys Arg Leu Glu Thr Leu Gln Lys Asp Pro Ala Thr Thr Pro Phe
165 170 175
Ser Val Val Phe Ser Asp Gln Leu Phe His Asp Pro Leu His Pro Asn
180 185 190
Asp Gln Gln Val Pro Pro Leu Leu Leu Ser Leu Pro Leu Lys Asn Ile
195 200 205
His Leu Gln Gly Thr Ile His Gly Val Cys Ser Lys Gly Val Tyr Leu
210 215 220
Phe Ser Met His Pro Gly Glu Ala Phe Lys Lys Thr Gln Lys Thr His
225 230 235 240
Gly Phe Pro Lys Asp Ala Phe Glu Leu Glu Ser Tyr Leu Glu Ser Tyr
245 250 255
Leu Ser Leu Ala Leu Leu Gln Ala Ser His Leu Leu Pro Lys Glu Ala
260 265 270
Thr Ile Leu Arg Val Thr Pro His Asp Ile Glu Pro Ile Leu Pro Pro
275 280 285
Phe Ser Ser Pro Glu Ser Tyr Leu Ile Arg Ala Ile His Leu Tyr Asp

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    290                 295                 300
Leu Leu Gln Asn Gln Ala Val Pro Leu Pro Ser Ala Gln Ala Trp Glu
305                 310                 315                 320
Tyr Ile Lys Lys Thr Asp Ser Ala Ser Gln Cys Ile Lys Lys Leu Leu
                325                 330                 335
Asp Ser Glu Glu Asp Pro Leu Thr Ser Ser Phe Trp Trp Phe His Asn
            340                 345                 350
Arg Asp Thr Glu Glu Ile Cys Ser Glu Leu Ser Asn Asp Val Leu Ser
        355                 360                 365
Gln Leu Leu Ser Leu Phe Ile Asn Gln Asp Ser Gln Gln Asn
    370                 375                 380
<210>794
<211>1026
<212>PRT
<213>Chlamydia trachomatis
<400>794
Met Ser Ser Phe Asp Ile Phe Ser Pro Thr Ala Ser Val Ser Gly Lys
  1               5                  10                  15
Phe Phe Leu Glu Ala Ser Ala Gly Thr Gly Lys Thr Phe Thr Ile Glu
             20                  25                  30
Gln Val Ile Leu Arg Ser Leu Leu Glu Gly Ser Ile Glu Gln Thr Lys
         35                  40                  45
Asn Ile Leu Val Val Thr Phe Thr Asn Ala Ala Thr Asn Glu Leu Lys
     50                  55                  60
Leu Arg Ile Gln Ala Ser Leu Lys Gln Ala Leu Ser Leu Phe Ser Gln
 65                  70                  75                  80
Ala Leu Ser His Pro Gly Thr Pro Leu Pro Pro Tyr Ile Ser Ser Ser
                85                  90                  95
Glu Thr Lys Val Lys Gln Leu Tyr Met Lys Ile Arg Asn Ser Leu Ala
            100                 105                 110
Thr Leu Asp Glu Met Asn Ile Phe Thr Ile His Gly Phe Cys Arg Phe
        115                 120                 125
Thr Leu Glu Gln His Phe Pro Trp Ile Gln Pro Ile Gln Pro Ser Ser
    130                 135                 140
Ile Phe Ser Glu Pro Gln Thr Ile Gln Gln Tyr Ile Leu Asp Tyr Leu
145                 150                 155                 160
Arg Lys Asn Leu Trp Asp Thr Val Leu Ser Pro Lys Gln Tyr Ala Phe
                165                 170                 175
Leu Ser Tyr His His Arg Ala Thr Thr Gln Gln Thr Arg His Leu Ile
            180                 185                 190
Glu Arg Leu Leu Gln Asp Tyr Thr Ser Thr Pro Asn Leu Ala Leu Ser
        195                 200                 205
Pro Leu Ser Ile Thr Leu Gln Lys Leu Lys Ala Trp Val Ser Cys Tyr
    210                 215                 220
Gln His Leu Ala Pro Leu Ser Leu Glu Glu Met Gln Ala Phe Ser Leu
225                 230                 235                 240
Arg Phe Lys Gln Ser Asp Leu Ser Ile Glu Arg Glu Leu Pro Ala Phe
                245                 250                 255
Val Gln Gln Phe Glu Thr Asn Pro Tyr Ser Leu Asp Met Leu Phe Phe
            260                 265                 270
Pro Gly Met Val Gln Lys Phe Gln Glu Glu Asn Arg Asn Lys Lys Lys
        275                 280                 285
Leu Ser Ala Pro Ala Ser Pro Leu Asp Pro Phe Phe Gln Asp Trp Ile
    290                 295                 300
Gln Leu Ala His Pro Phe Cys Gln Lys Glu Pro Ile Phe His Thr Leu
305                 310                 315                 320
Leu Lys Ser Val Gln Gln His Leu Lys Thr His Cys Ala Gln Ser Tyr
                325                 330                 335
Ser His Asp Glu Ser Ile Ala Thr Leu Glu Ser Leu Leu Asp His Asn
            340                 345                 350
Asp Thr Val Val Ser Gln Leu Arg Lys Gln Phe Gln Leu Val Leu Ile
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        355                 360                 365
Asp Glu Phe Gln Asp Thr Asp Lys Arg Gln Xaa Gln Ile Phe Ser Lys
    370                 375                 380
Leu Phe Ala Ser Pro Asp Tyr Ser Gly Ser Leu Phe Leu Ile Gly Asp
385                 390                 395                 400
Pro Lys Gln Ser Ile Tyr Glu Trp Arg Asn Ala Asp Leu Pro Thr Tyr
                405                 410                 415
Leu Gln Ala Lys His Ser Phe Pro Lys Glu Ala Arg Leu Ile Leu Asp
            420                 425                 430
Thr Asn Tyr Arg Ser Thr Pro Xaa Leu Met Gln Gly Leu Asn His Leu
        435                 440                 445
Phe Ser Leu Pro Thr Pro Phe Leu Glu Thr Pro Gln Asn Ile Leu Tyr
    450                 455                 460
His Pro Leu His Ser Lys Gly Ser Ser Glu Ile Ser Tyr Ser Glu Phe
465                 470                 475                 480
Ser Pro Ile His Phe Phe Ser Ser Glu Asp Ile Gln Glu Glu Thr Leu
                485                 490                 495
Trp Ile Ser Lys Thr Ala Ser Tyr Leu Arg Ser Ala Tyr Ser Ile Pro
            500                 505                 510
Phe Gly Asn Met Ala Val Leu Val Gln Asp Tyr Pro Gln Ala Leu Lys
        515                 520                 525
Leu Ile Thr His Ser Thr Ile Pro Met Ala Tyr Cys Lys Glu Lys Arg
    530                 535                 540
Ile Phe Asp Arg Thr Glu Ser Pro Tyr Leu Leu Ile Leu Leu Leu Glu
545                 550                 555                 560
Ala Leu Leu Tyr Pro Glu Asn Gln Gln Lys Ile Gln Ala Ile Leu Met
                565                 570                 575
Ser Arg Leu Phe Gln Leu Ser Ser Thr Glu Ile His Gln His Leu Lys
            580                 585                 590
Thr Phe Ser Ser Leu Phe Phe Thr Leu Asn Arg His Leu Tyr His Tyr
        595                 600                 605
Ser Leu Leu Ala Thr Phe Tyr Lys Leu Met Gly Glu Asn Val Leu Ser
    610                 615                 620
Gln Thr Ile Gly Glu Thr Leu Leu Gln Thr Pro Leu Gly Asp Ile Ile
625                 630                 635                 640
Phe Gln Glu Leu Glu Ala Leu Cys Leu Tyr Leu Asp Lys Thr Thr Glu
                645                 650                 655
Asn Pro His His Lys Leu Leu His Leu Ile Asn Ile Leu Ile Thr Gly
            660                 665                 670
Lys Tyr Asp Glu Glu Leu Ser Phe Ser Ser Gln Ser Asn Asp Glu Asn
        675                 680                 685
Met Ile Lys Ile Thr Thr Val His Ser Ser Lys Gly Leu Glu Tyr Asp
    690                 695                 700
Val Val Phe Cys Ser Cys Leu Asn Lys Ala Lys Glu Lys Thr Pro Ser
705                 710                 715                 720
Val His Met Arg Glu Met Tyr Val Ala Cys Thr Arg Ala Lys Lys Phe
                725                 730                 735
Leu Phe Ile Pro Phe Ser Pro Ile Glu Lys Arg Ser Leu Ser Thr Lys
            740                 745                 750
Lys Leu Ser Ala Leu Ala Asn Tyr Ala Asn Val Thr Lys His His Ser
        755                 760                 765
Val Pro His Leu Val Glu Thr Leu Thr Ser Ser Ser Pro Glu Leu Phe
    770                 775                 780
Ser Ser Ser Phe Gln Pro Pro Glu Ser Ser Leu Thr Pro Asp Arg Glu
785                 790                 795                 800
Arg Leu Pro Gln Gln Thr Tyr Phe Ser Leu Pro His Leu Pro Ser Arg
                805                 810                 815
Thr Ile His Ser Phe Ser Ser Thr Val Glu Asn Leu His Phe Ser Glu
            820                 825                 830
Pro Ile Gln Glu Leu Ser Pro Ser Leu Leu Phe Pro Gly Gly Ser Leu
        835                 840                 845
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Thr Gly Thr Leu Ile His Lys Leu Leu Glu Ser Leu Ala Gly Asn Phe
    850                 855                 860
Ala Ala Cys Phe Glu Glu Ile Phe Asn Lys Ala Gln Thr Leu Leu Lys
865                 870                 875                 880
Asn Thr Pro Leu Glu Gly Tyr Glu Ser Ile Ile Ala Glu Lys Ile Tyr
                885                 890                 895
Thr Val Phe Ser Thr Thr Leu Pro Phe Ser Ser Gly Ser Phe Ala Leu
            900                 905                 910
Arg Asn Ile His Pro His Asn Ile Arg Val Glu Glu Thr Phe Leu Leu
        915                 920                 925
Gln Glu Glu Gly Glu Leu Trp Gln Gly Ile Val Asp Leu Phe Phe Glu
    930                 935                 940
His Lys Gly Arg Phe Phe Ile Ile Asp Trp Lys Thr Ser Phe Leu Gly
945                 950                 955                 960
Asp Glu Thr Ser Cys Tyr Ser Pro Asp Gln Leu His Leu Tyr Ile Gln
                965                 970                 975
Arg Gln Gly Leu Asp Arg Gln Glu Arg Leu Tyr Arg Lys Ala Ala Lys
            980                 985                 990
Arg Phe Leu His Gln Phe Asn Ser Ser Leu Gln Val Glu Met Ala Phe
        995                 1000                1005
Val Phe Ile Arg Gly Leu Asp Asp Lys Gly Asn Gly Phe Leu Gln Pro
    1010                1015                1020
Gly Arg
1025
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<212>PRT
<213>Chlamydia trachomatis
<400>795
Thr Pro Ser Asn Tyr Ser Gln Ile Lys Pro Lys Ile Ser Gly Arg Ser
  1                 5                  10                  15
Leu Gly Leu Lys Ser Ile Gly Gly Asn Thr Lys Lys Ser Thr Val Glu
             20                  25                  30
Gln Ser Gly Ala Lys Asp Cys Ala Phe Ile Phe Lys Glu Gln Asp Pro
         35                  40                  45
Ser Leu Leu Gly Arg Thr Ser Leu Thr Val Ala Thr Arg Ser Pro Gly
     50                  55                  60
Gly Lys Thr Pro Ser Asn Pro Val Val Thr Arg Thr Ser Pro Thr Ser
 65                  70                  75                  80
Ile Val Phe Pro Ser Thr Lys Pro Lys Ser Leu Pro Leu Ser Ile Glu
                 85                  90                  95
Ala Ser Gly Phe Gln Ile Gly Ser Pro Arg Pro Gln Thr Ile Pro Arg
            100                 105                 110
Arg Ala Lys Ser Phe Cys Ser Asp Arg Asp Lys Glu Ser Ser Arg Ala
        115                 120                 125
Cys Lys Arg Cys Lys Ala Ser Cys Leu Ser Leu Ser Ala Lys Ala Asp
    130                 135                 140
Ala Gly Arg Leu Ala Thr Phe Leu Ala Asn Val Arg Ser
145                 150                 155
<210>796
<211>345
<212>PRT
<213>Chlamydia trachomatis
<400>796
Val Leu Leu Thr Val Leu Leu Arg Leu Met Asn Thr Leu Gly Pro Tyr
  1                 5                  10                  15
His Lys Arg Val Arg Phe Ile Thr Tyr Leu Phe Val Ala Phe Gly Ile
             20                  25                  30
Ile Val Ser Trp Asn Leu Pro Arg Ser Ala Tyr Glu Ser Ile Gln Asp
         35                  40                  45
Thr Phe Val Arg Val Cys Ser Lys Phe Leu Pro Phe Arg Gln Gly Ser
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     50                  55                  60
Asp Ser Gln Ala Leu Val Glu Glu Thr Gln Cys Phe Leu Leu Lys Glu
 65                  70                  75                  80
Lys Ile Arg Leu Leu Glu Glu Arg Ile Leu Ser Met Glu Glu Ala Lys
                 85                  90                  95
Gln Ser Pro Pro Leu Phe Ser Glu Ile Leu Ser Ser Tyr Phe Gln Ser
            100                 105                 110
Pro Ile Met Gly Arg Val Ile Phe Arg Asp Pro Ala His Trp Gly Ser
        115                 120                 125
Ser Cys Trp Ile Asn Ile Gly Lys Arg Gln Gly Val Lys Lys Asn Ser
    130                 135                 140
Pro Val Val Cys Gly Lys Val Val Val Gly Leu Val Asp Phe Val Gly
145                 150                 155                 160
Glu Ala Gln Ser Arg Val Arg Phe Ile Thr Asp Val Gly Ile Lys Pro
                165                 170                 175
Ser Val Met Ala Val Arg Gly Glu Ile Gln Thr Trp Val Val Lys Asp
            180                 185                 190
Gln Leu Arg Thr Leu Ala Arg Asn Val Ala Asn Leu Pro Ala Ser Ala
        195                 200                 205
Phe Ala Asp Ser Asp Lys Gln Glu Ala Leu His Leu Leu Gln Ala Leu
    210                 215                 220
Glu Asp Ser Leu Ser Leu Ser Glu Gln Asn Asp Phe Ala Leu Arg Gly
225                 230                 235                 240
Ile Val Cys Gly Arg Gly Asp Pro Ile Trp Lys Pro Glu Ala Ser Ile
                245                 250                 255
Leu Ser Gly Ser Asp Phe Gly Phe Val Asp Gly Lys Thr Ile Glu Val
            260                 265                 270
Gly Asp Val Leu Val Thr Thr Gly Leu Asp Gly Val Phe Pro Pro Gly
        275                 280                 285
Leu Leu Val Ala Thr Val Asn Glu Val Leu Pro Lys Ser Glu Gly Ser
    290                 295                 300
Cys Ser Leu Lys Ile Lys Ala Gln Ser Leu Ala Pro Asp Cys Ser Thr
305                 310                 315                 320
Val Asp Phe Leu Val Leu Pro Pro Met Asp Phe Asn Pro Asn Asp Arg
                325                 330                 335
Pro Asp Ile Phe Gly Leu Ile Trp Glu
            340                 345
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<210>797
<211>377
<212>PRT
<213>Chlamydia trachomatis
<400>797

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Arg Gly Phe Ile Val Ser Leu Phe Glu Gln Leu Pro Ser Phe Ser Pro
  1               5                  10                  15
Asp Ser Ile Leu Gly Leu Ala Gln Ala Phe Gln Glu Asp Pro Arg Glu
             20                  25                  30
Asp Lys Ile Asn Leu Leu Leu Gly Thr Tyr Glu Arg Glu Lys Lys Arg
         35                  40                  45
Tyr Gly Gly Phe Ser Ser Val Arg Lys Ala Gln Ser Val Phe Phe Asp
     50                  55                  60
Asp Glu Lys Asp Lys Asn Tyr Leu Pro Ile Lys Gly Ser Ser Thr Phe
 65                  70                  75                  80
Leu Glu Glu Met Ala Ala Leu Cys Phe Gly Glu Leu Asp Ala Asn Arg
                 85                  90                  95
Trp Val Gly Val Gln Ala Ile Gly Gly Thr Gly Ala Leu His Leu Gly
            100                 105                 110
Ala Ser Val Tyr Ala Asn Ala Ser Leu Ala Gly Lys Val Tyr Ile Pro
        115                 120                 125
Ser Gln Thr Trp Gly Asn His Ser Arg Ile Phe Ser His Gln Gly Leu
    130                 135                 140
Ala Leu Glu Tyr Tyr Pro Tyr Tyr Asp Gln Glu Thr Lys Glu Leu Asp
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145                 150                 155                 160
Leu Gln Gly Leu Lys Ala Val Leu Arg Ser Ala Pro Glu Thr Ser Leu
                165                 170                 175
Val Leu Leu His Cys Cys Cys His Asn Pro Thr Gly Lys Asp Ile Pro
            180                 185                 190
Leu Ser Glu Trp Pro Glu Ile Ile Thr Ile Ile Lys Glu Arg Asp Leu
        195                 200                 205
Ile Pro Phe Phe Asp Met Ala Tyr Leu Gly Phe Ala Ser Gly Ile Glu
    210                 215                 220
Glu Asp Arg Arg Pro Val Gln Leu Cys Ile Glu Ala Gly Val Thr Thr
225                 230                 235                 240
Phe Val Ala Gly Ser Ala Ser Lys Asn Phe Ser Leu Tyr Gly Ser Arg
                245                 250                 255
Val Gly Phe Phe Gly Ala Ile His Gln Asp Lys Gln Asp Leu Asn Arg
            260                 265                 270
Ile Leu Ser Phe Leu Glu Glu Gln Ile Arg Gly Glu Tyr Ser Ser Pro
        275                 280                 285
Ala Arg Glu Gly Val Ala Ile Val Thr Ser Ile Leu Ser Asn Pro Tyr
    290                 295                 300
Leu Arg Gln Glu Trp Glu Leu Glu Leu Asn Gly Ile Arg Gln Ser Leu
305                 310                 315                 320
Glu Glu Ile Arg Ser Ser Phe Val Ile Ala Met Arg Asn Val Ala Gly
                325                 330                 335
His Ser Phe Asp Phe Ile Ala Ser Gln Lys Gly Phe Phe Gly Tyr Pro
            340                 345                 350
Gly Phe Ser Lys Glu Gln Val Leu Phe Leu Arg Glu Glu Leu Gly Ile
        355                 360                 365
Tyr Thr Thr Ala Ala Glu Asp Ser Ile
    370                 375
<210>798
<211>134
<212>PRT
<213>Chlamydia trachomatis
<400>798
Val Pro Ser Asn Lys Leu Ile Leu Ser Ser Arg Gly Ser Ser Trp Lys
  1                 5                  10                  15
Ala Cys Ala Lys Pro Arg Ile Glu Ser Gly Glu Lys Glu Gly Asn Cys
             20                  25                  30
Ser Lys Arg Leu Thr Ile Lys Pro Leu Tyr Ser Ala Leu Leu Leu Thr
         35                  40                  45
Val Phe Phe Ser Ser Lys Met Thr Ala Cys Cys Pro Lys Ser Cys Lys
     50                  55                  60
His Asp Asn Leu Val Ser Ser Leu Gly Val Leu Ala Gln Leu Val Glu
 65                  70                  75                  80
Arg Asn Asn Gly Ile Val Glu Val Ser Gly Ser Ile Pro Leu Cys Ser
                 85                  90                  95
Asn Phe Cys Leu Ile Pro Tyr Arg Arg Asn Phe Leu Asp Leu Val Leu
            100                 105                 110
Leu Ala Leu Lys Gln Tyr Ser Phe Ser Asn Ser Phe Ser Asn His Phe
        115                 120                 125
Leu Gly Gln Phe Arg Phe
    130
<210>799
<211>735
<212>PRT
<213>Chlamydia trachomatis
<400>799
Cys Asn Ile Ala Leu Phe Cys Tyr Ser Ala Tyr Ile Ser Gly Leu Lys
  1                 5                  10                  15
Arg Gly Ala Ile Val Asp Tyr Leu Glu Asn Leu Gln Ser Leu Ile Glu
             20                  25                  30
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Asn His Pro Ser Asp Phe Phe Ser Leu Trp Glu Glu Tyr Cys Phe Asn
        35                  40                  45
Asp Val Val Lys Gly Asp Glu Leu Val Val Leu Leu Glu Lys Ile Lys
    50                  55                  60
Gly Ser Thr Ile Ala Pro Ala Phe Gly Lys Ile Ala Glu Ser Val Ile
65                  70                  75                  80
Pro Leu Trp Glu Gln Leu Pro Glu Gly Glu Glu Lys Asp Lys Val Leu
                85                  90                  95
Ser Leu Val Phe Asp Val Gln Thr Thr Asn Ser Lys Asn Leu Leu Glu
            100                 105                 110
Ile Ala Leu Gln Gln Val Lys Lys Tyr Glu Asp Ser Ala Asn Tyr Lys
        115                 120                 125
Glu Ala Leu Arg Ile Val Gly Leu Arg Asp Gly Ile Thr Phe Ser His
    130                 135                 140
Cys Leu Gly Arg Phe Ala Leu Leu Met His Leu Ser Glu Gly Asn Phe
145                 150                 155                 160
Val Phe His Gln Gly Gly Trp Gly Val Gly Glu Ile Met Gly Val Ser
                165                 170                 175
Phe Leu Gln Gln Lys Val Leu Val Glu Phe Glu Gly Val Leu Thr Ala
            180                 185                 190
Lys Asp Ile Ser Phe Glu Thr Ala Phe Arg Met Leu Val Pro Leu Arg
        195                 200                 205
Lys Asp His Phe Leu Ala Arg Arg Phe Gly Asp Pro Asp Ala Phe Glu
    210                 215                 220
Ala Phe Ala Arg Lys Glu Pro Val Ala Ala Ile Glu Cys Leu Leu Lys
225                 230                 235                 240
Asp Leu Gly Pro Lys Asn Ala Lys Glu Ile Arg Asn Glu Leu Val Glu
                245                 250                 255
Leu Val Ile Pro Glu Glu Asp Trp Ser Arg Trp Trp Gln Ser Ala Lys
            260                 265                 270
Ile Lys Met Lys Lys Asp Ala Arg Ile Leu Ala Pro Ala Ser Ser Lys
        275                 280                 285
Asp Pro Tyr Val Phe Asp Pro Lys Gly Phe Ser Phe Val Ser Gln Leu
    290                 295                 300
Gln Ala Ser Leu Ser Gly Ser Asn Asp Ala Asn Lys Lys Ile Thr Ser
305                 310                 315                 320
Cys Tyr Ala Phe Val Arg Asp Leu Gly Ser Glu Leu Lys Asp Glu Ser
                325                 330                 335
Asn Arg Gln Ser Val Ile Lys Glu Leu Lys Ala Leu Asp Leu Pro Ala
            340                 345                 350
Asp Ser Ala Leu Leu Ile Gln Arg Ala Met Leu Leu Ser Glu Phe Leu
        355                 360                 365
Gly Glu Lys Ala Pro Glu Leu Glu Tyr Glu Asn Ile Ala Lys Leu Ser
    370                 375                 380
Glu Asp Gln Leu Phe Asp Ile Val Asn Asn Ile Glu Ile Leu Ser Leu
385                 390                 395                 400
Gln Lys Ser Phe Leu Ala Leu Ile His Ser Cys Ser Pro Val Trp Val
                405                 410                 415
Pro Val Tyr Thr Lys Leu Phe Leu Thr Thr Ser Thr Ser Met Leu Arg
            420                 425                 430
Glu Gln Val Phe Lys Val Leu Asn Ala Asp Lys Glu Ala Arg Glu Asn
        435                 440                 445
Ile Leu Lys Lys Val Phe Ala Met Ile Glu Gln Pro Leu Leu Tyr Pro
    450                 455                 460
Glu Leu Phe Val Trp Leu Phe Ala Arg Val Val Asp Gly Glu Asp Gly
465                 470                 475                 480
Leu Phe Ala Glu Ser Asp Lys Lys Glu Ile Glu Arg Gln Met Leu Ala
                485                 490                 495
Ser Ala Leu Glu Leu Met His Lys Val Ala Thr Thr Pro Gln Lys Asp
            500                 505                 510
Leu Gly Lys Lys Leu Tyr Ser Phe Leu Val Gly Gln Arg Phe Leu Val
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        515                 520                 525
Ile Arg Gln Ile Ile Asp Gln Ala Ser Ile Glu Tyr Leu Lys Glu Phe
    530                 535                 540
Val Leu Leu Ser Ser Lys Cys Pro Gln Phe Thr Gln Gly Asp Leu Gly
545                 550                 555                 560
Val Leu Arg Ser Leu Ala Glu Val Val Gln Pro Ala Leu Lys Arg Gly
                565                 570                 575
Thr Leu Glu Glu Glu Glu Asn Ile Leu Trp Thr Thr Ser Asp Ser Phe
            580                 585                 590
Thr Arg Met Lys Asn Lys Leu Gln Ser Leu Val Gly Lys Glu Met Val
        595                 600                 605
Glu Asn Ala Lys Glu Ile Glu Asp Ala Arg Ala Leu Gly Asp Leu Arg
    610                 615                 620
Glu Asn Ser Glu Tyr Lys Phe Ala Ser Glu Arg Arg Ala Arg Leu Gln
625                 630                 635                 640
Glu Glu Ile Arg Val Leu Ser Glu Glu Ile Asn Arg Ala Lys Ile Leu
                645                 650                 655
Thr Lys Asp Ala Val Phe Thr Asp Ser Val Gly Val Gly Cys Lys Val
            660                 665                 670
Val Leu Glu Ser Asp Gln Gly Asp Lys Val Cys Tyr Thr Ile Leu Gly
        675                 680                 685
Pro Trp Asp Ala Asn Pro Asp Glu Lys Ile Leu Ser Leu Lys Ser Lys
    690                 695                 700
Leu Ala Gln Glu Met Val Gly Lys Ala Val Gly Glu Thr Val Leu Phe
705                 710                 715                 720
Gln Gly Lys Lys His Lys Ile Lys Glu Ile Ser Ser Ile Trp Asp
                725                 730                 735

<210>800
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<212>PRT
<213>Chlamydia trachomatis
<400>800
Asn Ile Glu Ile Phe Val Met Lys Asn Asn Ser Ala Gln Lys Ile Ile
  1               5                  10                  15
Asp Ser Ile Lys Gln Ile Leu Ser Ile Tyr Lys Ile Asp Phe Asp Pro
            20                  25                  30
Ser Phe Gly Ala Thr Leu Thr Asp Asp Asn Asp Leu Asp Tyr Gln Met
        35                  40                  45
Leu Ile Glu Lys Thr Gln Glu Lys Ile Gln Glu Leu Asp Lys Arg Ser
    50                  55                  60
Gln Glu Ile Leu Gln Gln Thr Gly Met Thr Arg Glu Gln Met Glu Val
65                  70                  75                  80
Phe Ala Asn Asn Pro Asp Asn Phe Ser Pro Glu Glu Trp Arg Ala Leu
                85                  90                  95
Glu Asn Ile Arg Ser Ser Cys Asn Glu Tyr Lys Lys Glu Thr Glu Glu
            100                 105                 110
Leu Ile Lys Glu Val Thr Asn Asp Ile Gly His Ser Ser His Lys Ser
        115                 120                 125
Pro Thr Pro Lys Lys Thr Lys Ser Ser Ser Gln Lys Lys Ser Lys Lys
    130                 135                 140
Lys Asn Trp Ile Pro Leu
145                 150

<210>801
<211>461
<212>PRT
<213>Chlamydia trachomatis
<400>801
Met Lys Ile Val Val Ser Arg Gly Leu Asp Leu Ser Leu Lys Gly Ala
  1               5                  10                  15
Pro Lys Glu Ser Gly Phe Cys Gly Lys Val Asp Pro Thr Tyr Val Ser
            20                  25                  30
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Val Asp Leu Arg Pro Phe Ala Pro Leu Pro Leu Glu Val Lys Val Thr
35 40 45
Pro Gly Asp Gln Val Thr Ala Gly Ser Pro Leu Ala Glu Tyr Lys Leu
50 55 60
Phe Ser Gly Val Phe Ile Thr Ser Pro Val Asp Gly Glu Val Val Glu
65 70 75 80
Ile Arg Arg Gly Asn Lys Arg Ala Leu Leu Glu Ile Val Ile Lys Lys
85 90 95
Lys Pro Gly Ile Ser Gln Thr Lys Phe Ser Tyr Asp Leu Gln Ser Leu
100 105 110
Thr Gln Lys Asp Leu Leu Glu Val Phe Lys Lys Glu Gly Leu Phe Ala
115 120 125
Leu Phe Lys Gln Arg Pro Phe Asp Ile Pro Ala Leu Pro Thr Gln Ser
130 135 140
Pro Arg Asp Val Phe Ile Asn Leu Ala Asp Asn Arg Pro Phe Thr Pro
145 150 155 160
Ser Val Glu Lys His Leu Ser Leu Phe Ser Ser Lys Glu Asp Gly Tyr
165 170 175
Tyr Ile Phe Val Val Gly Val Gln Ala Ile Ala Lys Leu Phe Gly Leu
180 185 190
Lys Pro His Ile Ile Ser Thr Asp Arg Leu Thr Leu Pro Thr Gln Asp
195 200 205
Leu Val Ser Ile Ala His Leu His Thr Ile Asp Gly Pro Phe Pro Ser
210 215 220
Gly Ser Pro Ser Thr His Ile His His Ile Ala Arg Ile Arg Asn Glu
225 230 235 240
Arg Asp Val Val Phe Thr Ile Ser Phe Gln Glu Val Leu Ser Ile Gly
245 250 255
His Leu Phe Leu Lys Gly Phe Val Leu Gly Gln Gln Ile Val Ala Leu
260 265 270
Ala Gly Ser Ala Leu Pro Pro Ser Gln Arg Lys Tyr Leu Ile Thr Ala
275 280 285
Lys Gly Ala Ser Phe Ser Asp Leu Leu Pro Lys Asp Ile Phe Ser Ser
290 295 300
Asp Glu Ile Thr Leu Ile Ser Gly Asp Pro Leu Thr Gly Arg Leu Cys
305 310 315 320
Lys Lys Glu Glu Asn Pro Cys Leu Gly Met Arg Asp His Thr Ile Thr
325 330 335
Leu Leu Pro Asn Pro Lys Thr Arg Glu Ser Phe Ser Phe Leu Arg Leu
340 345 350
Gly Trp Asn Lys Leu Thr Val Thr Arg Thr Tyr Leu Ser Gly Phe Phe
355 360 365
Lys Arg Lys Arg Val Phe Met Asp Met Asp Thr Asn Met His Gly Glu
370 375 380
Lys Arg Pro Ile Ile Asp Ala Glu Ile Tyr Glu Arg Val Ser Ala Ile
385 390 395 400
Pro Val Pro Val Ala Leu Ile Ile Lys Ala Leu Glu Thr Gln Asn Phe
405 410 415
Glu Glu Ala Cys Arg Leu Gly Leu Leu Glu Val Ala Pro Glu Asp Phe
420 425 430
Ala Leu Pro Thr Phe Ile Asp Pro Ser Lys Thr Glu Met Phe Ser Ile
435 440 445
Val Lys Glu Ser Leu Leu Arg Thr Gln Lys Arg Met Trp
450 455 460

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<212>PRT
<213>Chlamydia trachomatis
<400>802
Val Tyr Asn Phe Met Thr Arg Leu Pro Leu Leu Lys Arg Pro Arg Arg
1 5 10 15

Asn Arg Lys Ser Ala Ala Val Arg Ser Ile Ile Gln Glu Thr Gln Leu
20 25 30
Cys Ser Ser Asp Leu Ile Trp Pro Ile Phe Leu Lys Asp Gly Ser Gly
35 40 45
Ile Arg Glu Glu Ile Glu Ser Met Pro Gly Val Tyr Arg Trp Ser Leu
50 55 60
Asp Met Val Ser Lys Glu Leu Glu Arg Leu Cys Thr Ile Gly Leu Lys
65 70 75 80
Ala Val Ile Leu Phe Pro Val Ile Asp Ala Asn Lys Lys Glu Gln Phe
85 90 95
Gly Ser Tyr Ala Ser His Pro Tyr Asn Ile Val Cys Lys Gly Ile Gln
100 105 110
Ala Ile Lys Lys Ser Phe Pro Glu Leu Cys Val Ile Ser Asp Ile Ala
115 120 125
Leu Asp Pro Phe Thr Thr Ser Gly His Asp Gly Ile Phe His Asn Asn
130 135 140
Tyr Val Ile Asn Asp Glu Ser Val Arg Val Tyr Gly Gly Ile Ala Val
145 150 155 160
Met His Ala Glu Met Gly Ala Asp Ile Val Ala Pro Ser Asp Met Met
165 170 175
Asp Gly Arg Val Lys His Ile Arg Glu Gln Met Asp Gln Met Gly Phe
180 185 190
Val Asn Thr Gly Ile Leu Ser Tyr Ser Ala Lys Tyr Ala Ser Ala Leu
195 200 205
Tyr Gly Pro Phe Arg Asp Ala Leu Ser Ser His Leu Gln Ser Gly Asp
210 215 220
Lys Arg Thr Tyr Gln Met Asp Pro Ala Asn Val Gln Glu Ala Leu Leu
225 230 235 240
Glu Cys Gln Leu Asp Glu Glu Glu Gly Ala Asp Met Val Met Ile Lys
245 250 255
Pro Ala Gly Phe Tyr Leu Asp Val Ile Val Lys Ala Arg Glu Asn Thr
260 265 270
His Leu Pro Val Val Ala Tyr Gln Val Ser Gly Glu Phe Ser Met Ile
275 280 285
Met Ala Ala Cys Leu His Gly Trp Leu Asn Lys Glu Ser Val Ile Lys
290 295 300
Glu Ser Leu Leu Ala Ile Lys Arg Ala Gly Ala Thr Ala Ile Ile Ser
305 310 315 320
Tyr Ala Thr Pro Trp Val Leu Glu Trp Leu Ala Lys Asp Ala Leu Pro
325 330 335
Phe Glu Arg Ser Val Leu
340

<210>803
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<212>PRT
<213>Chlamydia trachomatis
<400>803
Ala Asn Leu Leu Tyr Arg Ser Phe Leu Met Leu Ser Lys Glu Gly Gly
1 5 10 15
Phe Ser Glu Glu Gln Arg Ala Arg Leu Ser His Phe Val Thr Asn Leu
20 25 30
Asp Ser Pro Ile Phe Ala Leu Lys Asn Leu Pro Glu Val Val Lys Gly
35 40 45
Ala Leu Phe Ser Lys Tyr Ser Arg Ser Thr Leu Gly Leu Arg Thr Leu
50 55 60
Leu Leu Lys Glu Phe Leu Asp Gly Glu Gly Gly Asn Phe Leu Asp Asp
65 70 75 80
Asp Gln Gln Asp Cys Glu Leu Gly Ile Gln Lys Ala Val Asp Phe Tyr
85 90 95
Arg Arg Val Leu Asp Asn Phe Gly Asp Asp Ser Val Gly Glu Leu Gly
100 105 110

Gly Ala His Leu Ala Leu Glu Gln Val Ser Met Leu Ala Ala Lys Ile
115 120 125
Leu Glu Asp Ala Arg Ile Gly Gly Ser Pro Leu Glu Lys Ser Ser Arg
130 135 140
Tyr Val Tyr Phe Asp Gln Lys Val Asn Gly Glu Tyr Leu Tyr Tyr Arg
145 150 155 160
Asp Pro Ile Leu Met Thr Ser Ala Phe Lys Asp Val Phe Leu Asp Thr
165 170 175
Cys Asp Phe Leu Phe Asn Thr Tyr Ser Asp Leu Ile Pro Gln Val Arg
180 185 190
Ser His Phe Glu Lys Leu Tyr Pro Lys Asp Pro Glu Val Ser Gln Ser
195 200 205
Ala Tyr Thr Val Ser Leu Arg Ala Lys Val Leu Asp Cys Leu Arg Gly
210 215 220
Leu Leu Pro Ala Ala Thr Leu Thr Asn Leu Gly Phe Phe Trp
225 230 235

<210>804
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<212>PRT
<213>Chlamydia trachomatis
<400>804
Gly Phe Phe Gly Asn Gly Arg Phe Trp Gln Asn Leu Leu His Arg Leu
1 5 10 15
Gln Asp Asn Ser Leu Val Glu Val Arg Asn Ile Gly Glu Gln Ser Leu
20 25 30
Thr Glu Leu Met Lys Ile Ile Pro Ser Phe Val Ser Arg Ala Glu Ser
35 40 45
His His Tyr His His Gln Ala Met Val Asp Tyr Arg Arg Ala Leu Lys
50 55 60
Glu Gln Leu Lys Ser Phe Ala His Arg Tyr Gly Glu Glu Arg Glu Ile
65 70 75 80
Ser Lys Glu Ala Gly Val Lys Leu Val Tyr Gly Asp Pro Asp Gly Leu
85 90 95
Tyr Lys Ile Ala Ala Ala Tyr Met Phe Pro Tyr Ser Glu His Thr Tyr
100 105 110
Ala Glu Leu Leu Asp Ile Cys Arg Asn Ile Pro Asn Glu Asp Leu Met
115 120 125
Arg Ile Leu Glu Ser Gly Ala Ser Phe Arg Glu Asn Arg Arg His Lys
130 135 140
Ser Pro Arg Gly Leu Glu Cys Ala Glu Phe Ala Phe Asp Ile Thr Ala
145 150 155 160
Asp Phe Gly Ala Tyr Arg Asp Leu Gln Arg His Arg Ile Leu Thr Gln
165 170 175
Glu Arg Gln Leu Leu Thr Lys Lys Leu Gly Tyr Thr Met Pro Ser Gln
180 185 190
Leu Ile Asp Thr Pro Met Glu Ala Pro Phe Arg Gly Ala Met Glu Lys
195 200 205
Ala Asp Gln Ala Tyr Arg Leu Ile Ala Glu Glu Phe Pro Glu Glu Ala
210 215 220
Gln Tyr Val Val Pro Leu Ala Tyr Asn Ile Arg Trp Leu Phe His Ile
225 230 235 240
Asn Ala Arg Gly Leu Gln Trp Leu Cys Glu Leu Arg Ser Gln Pro Gln
245 250 255
Gly His Glu Ser Tyr Arg Lys Ile Ala Ile Asp Met Ala Arg Glu Val
260 265 270
Ile Gln Phe His Pro Ala Tyr Glu Leu Phe Leu Lys Phe Val Asp Tyr
275 280 285
Ser Glu Thr Asp Leu Gly Arg Leu Gln Gln Glu Ser Arg Lys Lys Ser
290 295 300

<210>805
<211>86

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<212>PRT
<213>Chlamydia trachomatis
<400>805
Glu Lys Met Lys Thr Leu Ile Asp Asn Asn Ile Val Arg Phe Lys Asn
1 5 10 15
Ile Ser Lys Thr Lys Gln Gly Ile Phe Val Asn Phe Gln Val Lys Gly
20 25 30
Glu Arg Gly Gly Ala Ser Phe Thr Ala Ser Ile Ala Val Asp Ile Asp
35 40 45
Ala Ala Asp Val Ser Ala Gly Asp Ser Leu Glu Thr Ile Ile Glu Arg
50 55 60
Cys Ala Leu Ile Gly Ile Arg Glu Phe Gln Lys Cys Glu Phe Gln Phe
65 70 75 80
Asp Gly Ile Ile Cys Leu
85

<210>806
<211>227
<212>PRT
<213>Chlamydia trachomatis
<400>806
Met Ala Gly Pro Lys His Val Leu Leu Val Ser Glu His Trp Asp Leu
1 5 10 15
Phe Phe Gln Thr Lys Glu Leu Leu Asn Pro Glu Glu Tyr Arg Cys Thr
20 25 30
Ile Gly Gln Gln Tyr Lys Gln Glu Leu Ser Ala Asp Leu Val Val Cys
35 40 45
Glu Tyr Ser Leu Leu Pro Arg Glu Ile Arg Ser Pro Lys Ser Leu Glu
50 55 60
Gly Ser Phe Val Leu Val Leu Leu Asp Phe Phe Asp Glu Glu Thr Ser
65 70 75 80
Val Asp Leu Leu Asp Arg Gly Phe Trp Tyr Leu Ile Arg Pro Ile Thr
85 90 95
Pro Arg Ile Leu Lys Ser Ala Ile Ser Leu Phe Leu Ser Gln His Ser
100 105 110
Leu His Ser Val Pro Glu Ser Ile Arg Phe Gly Pro Asn Val Phe Tyr
115 120 125
Val Leu Lys Leu Thr Val Glu Thr Pro Glu Gly Ser Val His Leu Thr
130 135 140
Pro Ser Glu Ser Gly Ile Leu Lys Arg Leu Leu Ile Asn Lys Gly Gln
145 150 155 160
Leu Cys Leu Arg Lys His Leu Leu Glu Glu Ile Lys Asn His Ala Lys
165 170 175
Ala Ile Val Ala Arg Asn Val Asp Val His Ile Ala Ser Leu Arg Lys
180 185 190
Lys Leu Gly Ala Tyr Gly Ser Arg Ile Val Thr Leu Arg Gly Val Gly
195 200 205
Tyr Leu Phe Ser Asp Asp Gly Asp Lys Lys Phe Ser Gln Gln Asp Thr
210 215 220
Lys Leu Ser
225

<210>807
<211>246
<212>PRT
<213>Chlamydia trachomatis
<400>807
Ile Pro Ser Tyr Ala Cys Ile Arg Ser Leu Val Met Val Leu Ser Ala
1 5 10 15
Ser Leu Phe Ser Pro Glu Glu Phe Leu Tyr Pro Glu Ile Val Ser Gln
20 25 30
Ala Glu Phe Val Trp Ser Ile Leu Thr Leu Leu Glu Glu Lys Leu Ala
35 40 45

```
Ser His Thr Phe Ser Gly Ile His Gly His Leu Glu Glu Gly Val Tyr
     50                  55                  60
Leu Lys Asn Lys Glu Thr Ile Glu Ile Gln Glu Gly Ala Tyr Val Glu
 65                  70                  75                  80
Ser Gly Ala Tyr Ile Cys Gly Pro Cys Ile Ile Gly Pro Tyr Thr Gln
                 85                  90                  95
Val Arg His Gly Ala Tyr Ile Arg Gly Gly Val Ile Thr Ser Ser His
            100                 105                 110
Cys Val Ile Gly His Cys Ser Glu Ile Lys Asn Ser Tyr Leu Gly His
        115                 120                 125
His Ala Lys Ala Ala His Phe Ala Tyr Val Gly Asp Ser Val Phe Gly
    130                 135                 140
Ser Arg Val Asn Leu Gly Ala Gly Val Arg Cys Ala Asn Phe Arg Leu
145                 150                 155                 160
Asp Gly Lys Thr Ile Phe Phe His His Ser Gly Glu Arg Tyr Asp Thr
                165                 170                 175
Lys Arg Lys Lys Leu Gly Ala Phe Leu Gly Arg Gly Val Ser Val Gly
            180                 185                 190
Cys Asn Thr Val Leu Asn Pro Gly Cys Tyr Val Ala Ser Ala Thr Lys
        195                 200                 205
Ile Leu Pro Lys Ser Asn His Leu Leu Arg Asn Asn Leu Cys Gln Thr
    210                 215                 220
Lys Val Asp Glu Lys Lys Lys Ala Val Ala Trp Ile Trp Ile Ile Ser
225                 230                 235                 240
Ala Phe Ile Asp Arg Lys
                245
```

<210>808
<211>129
<212>PRT
<213>Chlamydia trachomatis
<400>808

```
Leu Asp Met Asp Tyr Phe Ser Val Tyr Arg Ser Lys Val Glu Lys Lys
  1                 5                  10                  15
Leu Arg Asp Ser Leu Gly Asp Phe Gly Asn Thr Gln Gly Gly Leu Arg
             20                  25                  30
Asp Pro Ile Glu Tyr Ala Leu Leu Gly Gly Gly Lys Arg Val Arg Pro
         35                  40                  45
Leu Leu Val Gly Leu Phe Ala Glu Gly Ile His Lys Glu Arg Asp Val
     50                  55                  60
Leu Asp Thr Ala Ile Ala Ile Glu Tyr Ile His Thr Ser Thr Leu Ile
 65                  70                  75                  80
Ala Asp Asp Leu Pro Cys Met Asp Asp Asp Asp Met Arg Arg Gly Lys
                 85                  90                  95
Leu Arg Phe Thr Lys Leu Leu Met Lys Leu Arg Leu Ser Trp Leu Arg
            100                 105                 110
Met Leu Leu Phe Gln Leu Leu Met His Glu Phe Val Arg Met Gln Lys
        115                 120                 125
Arg
```

<210>809
<211>199
<212>PRT
<213>Chlamydia trachomatis
<400>809

```
Arg Gln Ala Ser Val His Lys Ala Phe Asp Glu Ala Ser Ala Leu Leu
  1                 5                  10                  15
Ala Ser Tyr Ala Leu Ile Pro Ala Ala Tyr Ala Arg Ile Arg Lys Asn
             20                  25                  30
Ala Lys Ala Leu Lys Ala Val Val Ser Cys Glu Gln Asp Val Glu Glu
         35                  40                  45
Ala Tyr Glu Asp Ile Leu Glu Leu Ile Glu Leu Arg Phe Gly Val Gly
```

```
     50                  55                  60
Gly Ile Leu Gly Gly Gln Tyr Glu Asp Val Phe Phe His Asp Phe Ser
 65                  70                  75                  80
Lys Glu Asn Val Leu Gly Ile Ile Lys Lys Lys Thr Gly Ala Leu Phe
                85                  90                  95
Glu Ile Ala Cys Val Ser Gly Trp Leu Phe Gly Gly Gly Glu Arg Glu
            100                 105                 110
Ser Ser Thr Leu Val Ala Glu Phe Ala Glu His Phe Gly Leu Leu Phe
        115                 120                 125
Gln Ile Arg Asp Asp Leu Ala Asp Leu Ser Gln Asp Asp Gln Glu Glu
    130                 135                 140
Lys His Met Asn Tyr Ala Leu Leu Phe Gly Glu Val Ala Ala Lys Glu
145                 150                 155                 160
Leu Leu Asp His Ser Phe Glu Ser Cys Ile Lys Asn Leu His Leu Leu
                165                 170                 175
Gln Glu Arg Gly Leu Glu Cys Ser Glu Pro Leu Glu Met Leu Cys Lys
            180                 185                 190
Asn Val Phe Cys Gly Trp Lys
        195
<210>810
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>810
Lys Ser Pro Pro Ile Ala Gly Glu Gly Ile Arg Val Phe Gly Ala Ala
  1                 5                  10                  15
Arg Asp Val Val Gln Lys Cys Val Leu Trp Met Glu Ile Asn Thr Phe
             20                  25                  30
Tyr Ala Asn Leu Ala Ala Glu Asp Phe Gly Arg Gly Ala His Arg Thr
         35                  40                  45
Trp Ala Ser Leu Phe Phe Met Leu Val Gly Phe Leu Val Leu Leu Gly
     50                  55                  60
Asn Ser Ser Val Gln Leu Leu Asp Lys Gly Val Phe Tyr Gly Lys Ala
 65                  70                  75                  80
Cys Phe Leu Ser Leu Gln Arg Lys Leu Glu Tyr Glu Glu Leu Glu Ser
                85                  90                  95
Ile Leu Leu Asn Asn Ile Leu Tyr Gly
            100                 105
<210>811
<211>164
<212>PRT
<213>Chlamydia trachomatis
<400>811
Pro Lys Ser Ile Asp Pro Ala Lys Thr Pro Val Met Met Tyr Cys Thr
  1                 5                  10                  15
Gly Gly Ile Arg Cys Glu Leu Tyr Ser Ala Leu Leu Leu Glu Lys Gly
             20                  25                  30
Phe Lys Glu Val Tyr Gln Leu Asp Gly Gly Val Ile Ala Tyr Gly Leu
         35                  40                  45
Lys Met Gly Thr Gly Lys Trp Arg Gly Lys Leu Phe Val Phe Asp Asp
     50                  55                  60
Arg Met Ala Met Pro Ile Asp Glu Ala Asp Pro Asn Val Ser Pro Ile
 65                  70                  75                  80
Ala Arg Cys Ser Leu Cys Asn Thr Asp Ser Asp Thr Tyr Tyr Asn Cys
                85                  90                  95
Ala Asn Thr Asp Cys Asn Asn Leu Phe Ile Cys Cys Glu Ser Cys Ile
            100                 105                 110
Ala Thr His Lys Gly Cys Cys Ser Glu Glu Cys Ser Gln Ala Pro Arg
        115                 120                 125
Ile Arg Ala Phe Ser Ala Glu Arg Gly Asn Lys Pro Phe Arg Arg Lys
    130                 135                 140
```

```
His Leu Cys Pro Thr Ile Glu Gln Ser Cys Cys Leu Lys Glu Gln Glu
145                 150                 155                 160
Asn Gln Pro Ala
```

<210>812
<211>170
<212>PRT
<213>Chlamydia trachomatis
<400>812

```
Asp Val Phe Met Glu Lys Asn Tyr Tyr Ala Leu Ala Tyr Tyr Tyr Phe
  1               5                  10                  15
Gly Pro Val Ser Asn Pro Tyr Glu Glu Ile Ala Leu His Lys Gln Leu
            20                  25                  30
Phe Lys Thr Met Asp Val Ser Cys Arg Ile Tyr Ile Ser Glu Glu Gly
        35                  40                  45
Ile Asn Gly Gln Phe Ser Gly Tyr Gln Pro Asp Ala Glu Arg Tyr Met
    50                  55                  60
Ala Trp Leu Lys Gln Arg Pro Asp Phe Ala Ser Ile Lys Phe Lys Ile
65                  70                  75                  80
His His Ile Glu Glu Asn Ile Phe Pro Arg Val Thr Val Lys Tyr Arg
                85                  90                  95
Lys Glu Leu Val Ala Leu Gly Cys Ser Val Asp Thr Thr Lys Gln Gly
            100                 105                 110
Lys His Ile Ser Pro Glu Glu Trp His Glu Lys Leu Gln Glu Asn Arg
        115                 120                 125
Cys Leu Val Leu Asp Val Arg Asn Asn Tyr Glu Trp Lys Ile Gly His
    130                 135                 140
Phe Glu Asn Ala Val Leu Pro Asp Ile Glu Thr Phe Arg Glu Phe Pro
145                 150                 155                 160
Asp Tyr Ala Asp Arg Leu Ala Lys Glu His
                165                 170
```

<210>813
<211>209
<212>PRT
<213>Chlamydia trachomatis
<400>813

```
Met Ala Arg Tyr Cys Gly Pro Lys Asn Arg Ile Ala Arg Arg Phe Gly
  1               5                  10                  15
Ala Asn Ile Phe Gly Arg Gly Arg Asn Pro Leu Leu Arg Lys Pro Asn
            20                  25                  30
Pro Pro Gly Gln His Gly Met Gln Arg Lys Lys Lys Ser Asp Tyr Gly
        35                  40                  45
Leu Gln Leu Glu Glu Lys Gln Lys Leu Lys Ala Cys Tyr Gly Met Ile
    50                  55                  60
Leu Glu Lys Gln Leu Val Lys Ala Tyr Lys Glu Val Val Asn Lys Gln
65                  70                  75                  80
Gly Asn Val Ala Gln Met Phe Leu Glu Lys Phe Glu Cys Arg Leu Asp
                85                  90                  95
Ser Ile Val Tyr Arg Leu Gly Phe Ala Lys Thr Ile Phe Ala Ala Gln
            100                 105                 110
Gln Leu Val Ser His Gly His Val Leu Val Asn Gly Lys Lys Val Asp
        115                 120                 125
Arg Arg Ser Phe Phe Val Arg Pro Gly Met Gln Ile Ser Leu Lys Glu
    130                 135                 140
Lys Ser Lys Arg Leu Ala Ile Val Thr Glu Ser Leu Glu Asn Lys Asp
145                 150                 155                 160
Gln Ser Ser Leu Pro Ala Tyr Leu Ser Leu Asp Lys Ala Ala Phe Lys
                165                 170                 175
Gly Glu Leu Val Val Ala Pro Glu Leu Asp Gln Ile Ala Ser Gln Leu
            180                 185                 190
Pro Leu Pro Val Asn Val Ser Val Ile Cys Glu Phe Leu Ser His Arg
```

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195 200 205

Thr

<210>814
<211>288
<212>PRT
<213>Chlamydia trachomatis
<400>814

```
Met Phe Ile Leu Pro Pro Pro Gln Glu Pro Leu Leu Gly Ala His Thr
  1               5                  10                  15
Ser Ala Ala Gly Gly Leu His Asn Ala Leu Tyr Glu Gly Arg Asp Ile
            20                  25                  30
Gly Ala Thr Thr Val Gln Leu Phe Thr Ala Asn Gln Arg Gln Trp Lys
        35                  40                  45
Arg Arg Ala Leu Thr Gln Glu Met Val Asp Gln Phe Arg Ile Ala Leu
    50                  55                  60
Asn Glu Thr Ser Leu Ser Tyr Ile Met Ser His Ala Gly Tyr Leu Asn
65                  70                  75                  80
Asn Pro Gly Ala Pro Asn Pro Glu Ile Leu Glu Lys Thr Arg Val Cys
                85                  90                  95
Met His Gln Glu Ile Ala Asp Cys Ile Ser Leu Gly Ile Ser Phe Val
            100                 105                 110
Asn Phe His Pro Gly Ala Ala Leu Ser Asp Ser Lys Glu Ser Cys Leu
        115                 120                 125
Asp Arg Ala Ile Thr Ser Phe Ser Gln Met Ala Pro Leu Phe Glu Asn
    130                 135                 140
His Pro Pro Leu Val Val Leu Leu Glu Thr Thr Ala Gly Gln Gly Ser
145                 150                 155                 160
Leu Ile Gly Ser Ser Phe Glu Glu Leu Ala Tyr Leu Ile Gln Gly Ile
                165                 170                 175
Lys Ala Leu Ile Pro Ile Gly Val Cys Leu Asp Thr Cys His Ile Phe
            180                 185                 190
Ala Ala Gly Tyr Asp Ile Ser Ser Val Ala Gly Trp Glu Gln Val Leu
        195                 200                 205
Lys His Phe Asp Ala Val Ile Gly Leu Ser Phe Leu Arg Ala Ile His
    210                 215                 220
Leu Asn Asp Ser Val Phe Ala Leu Gly Lys Asn Lys Asp Arg His Ala
225                 230                 235                 240
Pro Ile Gly Glu Gly Cys Ile Gly Ser Asp Ser Phe Cys Phe Leu Met
                245                 250                 255
Gln Asp Glu Arg Thr Arg Met Leu Pro Lys Tyr Leu Glu Thr Pro Gly
            260                 265                 270
Gly Pro Asp Leu Trp Thr Lys Glu Ile Arg Tyr Leu Gln Lys Val Cys
        275                 280                 285
```

<210>815
<211>356
<212>PRT
<213>Chlamydia trachomatis
<400>815

```
Val Met Arg Lys Asp Asp Glu Gly Ser Leu Val Arg Ser Leu Phe Asn
  1               5                  10                  15
Leu Leu Ser Gly Thr Phe Phe Ser Arg Leu Thr Gly Met Leu Arg Glu
            20                  25                  30
Ile Val Met Ala Thr Tyr Phe Gly Ala Asp Pro Leu Val Ala Ser Phe
        35                  40                  45
Trp Leu Ala Phe Arg Thr Ile Phe Phe Leu Arg Lys Leu Leu Gly Gly
    50                  55                  60
Pro Ile Leu Gly Leu Ala Phe Ile Pro His Phe Glu Phe Leu Arg Ala
65                  70                  75                  80
Gln Asn Ile Ser Arg Ala Thr Phe Phe Phe Lys Ser Phe Ser Arg Phe
                85                  90                  95
```

```
Phe Cys Tyr Ser Ala Ile Leu Phe Thr Leu Ile Ile Glu Leu Gly Leu
            100                 105                 110
Cys Val Trp Cys Ser Cys Val Thr Gly Ser Leu Phe Asp Thr Leu Phe
        115                 120                 125
Leu Thr Ile Ile Leu Leu Pro Ser Gly Ile Phe Leu Met Met Tyr Thr
    130                 135                 140
Val Asn Ser Thr Leu Leu His Cys Glu Lys Lys Phe Phe Ser Val Gly
145                 150                 155                 160
Leu Ala Pro Ser Val Val Asn Val Leu Trp Ile Gly Thr Val Phe Leu
                165                 170                 175
Ala Arg Asn Tyr Asp Pro Arg Asn Arg Ile Phe Gly Leu Ala Val Val
            180                 185                 190
Leu Val Val Gly Phe Ile Leu Glu Trp Ala Ile Thr Leu Pro Gly Val
        195                 200                 205
Met Lys Phe Leu Gly Gln Ser Lys Glu Val Pro Gln Glu Arg Asp Ser
    210                 215                 220
Ile Arg Ala Leu Ile Ala Pro Leu Ser Leu Gly Leu Leu Ser Met Gly
225                 230                 235                 240
Ile Phe Gln Leu Asn Leu Leu Cys Asp Met Trp Leu Ala Arg Tyr Ile
                245                 250                 255
Asn Glu Val Gly Pro Leu Tyr Leu Met Tyr Ser Val Arg Ile Gln Gln
            260                 265                 270
Leu Pro Val His Leu Phe Gly Leu Gly Val Phe Thr Val Leu Leu Pro
        275                 280                 285
Ala Ile Ser Arg Cys Val Gln Asp Gln Glu His Gln Gln Gly Tyr Asp
    290                 295                 300
Leu Leu Arg Phe Ser Leu Lys Leu Thr Val Ala Val Met Val Val Ile
305                 310                 315                 320
Thr Met Gly Leu Leu Leu Phe Ala Leu Pro Gly Val Arg Val Leu Tyr
                325                 330                 335
Glu His Gly Val Phe Pro Tyr Asn Ser Cys Ala Arg Tyr Cys Arg Ser
            340                 345                 350
Ser Lys Arg Val
        355
<210>816
<211>217
<212>PRT
<213>Chlamydia trachomatis
<400>816
Arg Trp Gly Tyr Cys Phe Leu Leu Cys Leu Gly Tyr Glu Cys Tyr Met
  1               5                  10                  15
Ser Thr Glu Cys Phe Leu Thr Thr Ala Val His Ala Ile Val Glu Val
            20                  25                  30
Leu Arg Gly Tyr Ser Gly Ser Ile Ile Pro Met Ala Leu Ala Pro Leu
        35                  40                  45
Val Ser Ala Leu Phe Tyr Ala Arg Arg Asn Tyr Lys Val Pro Met Leu
    50                  55                  60
Val Gly Ile Ile Ala Ala Val Val Asn Met Val Leu Asn Val Ile Gly
65                  70                  75                  80
Cys Leu Val Cys Lys Gln Val Ala Val Leu Ala Tyr Ala Thr Ser Leu
                85                  90                  95
Ala Ser Trp Gly Gln Leu Ala Met Leu Trp Tyr Cys Ala Gly Lys Ser
            100                 105                 110
Leu Pro Thr Tyr Lys Gly Leu Met Trp Arg Thr Phe Lys Glu Ser Gly
        115                 120                 125
Lys Thr Val Ile Thr Thr Ile Leu Ala Ala Val Ile Thr Ile Gly Val
    130                 135                 140
Asn Ile Val Thr His Thr Thr Tyr Val Val Phe Ile Glu Pro Leu Thr
145                 150                 155                 160
Val Pro Thr Lys Pro Leu Val Ser Phe Leu Asp Gln Cys Gly Val Phe
                165                 170                 175
```

```
Phe Ala Glu Ser Ala Leu Phe Leu Ser Val Leu Phe Gly Leu Ala Lys
            180                 185                 190
Leu Leu Lys Thr Glu Asp Leu Val Asn Leu Thr Ser Phe Gln Tyr Trp
        195                 200                 205
Lys Gly His Gln Ser Ile Leu Arg Asn
    210                 215
<210>817
<211>132
<212>PRT
<213>Chlamydia trachomatis
<400>817
Ala Leu Leu Asp Asn Lys Ile Gln Thr Met Gly Arg Leu Tyr Glu Met
  1               5                  10                  15
Ser Asn Phe Ala Lys Asp Ile Met Lys Lys Tyr Phe Tyr Lys Gly Phe
             20                  25                  30
Val Gly Ala Leu Leu Leu Ala Cys Gly Ser Thr Asn Leu Ala Phe Ala
         35                  40                  45
Gln Ala Ser Ser Met Asp Ser Gln Leu Trp Ser Val Glu Asp Leu Asp
     50                  55                  60
Ser Tyr Leu Ser Ser Lys Gly Phe Val Glu Thr Arg Lys Arg Arg Trp
 65                  70                  75                  80
Ser Phe Thr Phe Ser Trp Arg Cys Pro Arg Ser Met Asp Leu Cys Lys
                 85                  90                  95
Arg Gly Ile Leu Arg Gln Leu Arg Leu Leu Leu Asn Leu Phe Tyr Leu
            100                 105                 110
Ser Ile Val Ile Val Val Asn Ser Ile Cys Met Trp Ile Thr Pro Leu
        115                 120                 125
Leu Ile Val Gly
    130
<210>818
<211>372
<212>PRT
<213>Chlamydia trachomatis
<400>818
Leu Glu Met Ser Ala Leu Asp Gly Phe Met Gln Lys Arg His Leu Glu
  1               5                  10                  15
Thr Thr Gln Thr Pro Thr Lys Pro Ile Leu Pro Ile Asn Arg Tyr Arg
             20                  25                  30
Ser Glu Phe Asn Leu Tyr Val Asp Tyr Thr Ala Ala Asn Ser Trp Met
         35                  40                  45
Thr Ser Lys Met Asn Trp Val Thr Ile Ala Gly Gly Glu Ser Ser Ala
     50                  55                  60
Ala Gly Leu Asp Ile Asn Arg Ala Phe Leu Gly Tyr Arg Phe Tyr Lys
 65                  70                  75                  80
Asn Pro Glu Thr Gln Ala Glu Val Phe Ala Glu Ile Gly Arg Ser Gly
                 85                  90                  95
Leu Gly Asp Ile Phe Asp Ser Asp Val Gln Phe Asn Ser Asn Phe Asp
            100                 105                 110
Gly Ile His Leu Tyr Ala Ala Arg Arg Ile Ser Glu Lys Leu Pro Phe
        115                 120                 125
Thr Met Ile Val His Gly Gly Pro Phe Val Val Asn Met Ala Glu Lys
    130                 135                 140
Glu Tyr Ala Trp Val Val Glu Ala Ile Leu Asn Lys Leu Pro Gly Asn
145                 150                 155                 160
Phe Val Val Lys Thr Ser Val Ile Asp Trp Asn Thr Leu Thr Ala Lys
                165                 170                 175
Thr Asn Asp Pro Ala Asp Ala Ser Thr Ala Gln Pro Ala Lys Pro Asn
            180                 185                 190
Thr Lys Tyr Asp Tyr Leu Val Trp Gln Trp Leu Val Gly Lys Ser Thr
        195                 200                 205
Ala Met Pro Trp Phe Asn Gly Gln Thr Lys Asn Leu Tyr Thr Tyr Gly
```

SEQ ID NO: 818

```
    210                 215                 220
Ala Tyr Leu Phe Asn Pro Leu Ala Glu Ile Pro Glu Asn Trp Lys Gln
225                 230                 235                 240
Ser Thr Thr Thr Pro Ala Thr Lys Ile Thr Asn Gly Lys Glu Asn His
                245                 250                 255
Ala Trp Phe Ile Gly Cys Ser Leu Gly Gly Val Arg Arg Ala Gly Asp
            260                 265                 270
Trp Ser Ala Thr Val Arg Tyr Glu Tyr Val Glu Ala Leu Ala Ile Pro
        275                 280                 285
Glu Ile Asp Val Ala Gly Ile Gly Arg Gly Asn Gln Met Lys Tyr Gly
    290                 295                 300
Phe Ala Gln Ala Ile Lys Gln Gly Leu Asp Pro Lys Glu Ser Asn Gly
305                 310                 315                 320
Phe Thr Asn Tyr Lys Xaa Val Ser Tyr Gln Phe Val Met Gly Leu Thr
                325                 330                 335
Asp Ser Val Ser Phe Arg Ala Tyr Ala Ala Tyr Ser Lys Pro Ala Asn
            340                 345                 350
Asp Asn Leu Gly Ser Asp Phe Thr Tyr Arg Lys Tyr Asp Leu Gly Leu
        355                 360                 365
Ile Ser Ser Phe
    370
<210>819
<211>350
<212>PRT
<213>Chlamydia trachomatis
<400>819
Gly Phe Phe Ile Phe Leu Tyr Cys Met Glu Ser Gly Pro Glu Ser Val
  1                 5                  10                  15
Ser Ser Asn Gln Ser Ser Met Asn Pro Ile Ile Asn Gly Gln Ile Ala
             20                  25                  30
Ser Asn Ser Glu Thr Lys Glu Ser Thr Lys Ala Ser Glu Ala Ser Ser
         35                  40                  45
Ser Ala Ser Ser Ser Val Ser Ser Trp Ser Phe Leu Ser Ser Ala Lys
     50                  55                  60
Asn Ala Leu Ile Ser Leu Arg Asp Ala Ile Leu Asn Lys Asn Ser Ser
 65                  70                  75                  80
Pro Thr Asp Ser Leu Ser Gln Leu Glu Ala Ser Thr Ser Thr Ser Thr
                 85                  90                  95
Val Thr Arg Val Ala Ala Lys Asp Tyr Asp Lys Ala Lys Ser Asn Phe
            100                 105                 110
Asp Thr Ala Lys Ser Gly Leu Glu Asn Ala Lys Thr Leu Ala Glu Tyr
        115                 120                 125
Glu Thr Lys Met Ala Asp Leu Met Ala Ala Leu Gln Asp Met Glu Ala
    130                 135                 140
Asn Ser Asp Pro Ser Asn Asp His Thr Glu Glu Leu Asn Asn Ile Lys
145                 150                 155                 160
Lys Ala Leu Glu Ala Gln Lys Asp Thr Ile Asp Lys Leu Asn Lys Leu
                165                 170                 175
Val Thr Leu Gln Asn Gln Asn Lys Ser Leu Thr Glu Ala Leu Lys Thr
            180                 185                 190
Thr Asp Ser Ala Asp Gln Ile Pro Ala Ile Asn Ser Arg Leu Glu Ile
        195                 200                 205
Asn Lys Asn Ser Ala His Gln Ile Ile Lys Glu Leu Lys Glu Gln Ile
    210                 215                 220
Ser Asn Tyr Lys Ala Val Leu Thr Asp Val Glu Lys Val Ile Lys Glu
225                 230                 235                 240
Phe Ser Glu Ala Gly Ile Lys Leu Gly Gln Ala Leu Gln Ser Ile Val
                245                 250                 255
Asp Ala Gly Asp Gln Ser Gln Ala Ala Val Leu Gln Ala Arg Gln Ser
            260                 265                 270
Asn Ser Pro Asp Asn Ile Ala Ala Thr Lys Lys Leu Ile Asp Ala Ala
```

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```
        275                 280                 285
Lys Thr Lys Val Asn Glu Leu Lys Gln Glu His Gln Glu Ile Ala Asp
    290                 295                 300
Ser Pro Leu Val Lys Lys Ala Glu Glu Gln Ile Asn Gln Ala Gln Gln
305                 310                 315                 320
Asp Ile Gln Thr Ile Thr Pro Ser Gly Leu Asp Ile Pro Ile Val Gly
                325                 330                 335
Pro Ser Gly Ser Gly Xaa Pro Gln Glu Val Arg Gln Glu Arg
            340                 345                 350
```

<210>820
<211>331
<212>PRT
<213>Chlamydia trachomatis
<400>820

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Trp Phe Gly Tyr Ser Tyr Arg Trp Ser Glu Trp Val Arg Xaa Ser Ala
  1               5                  10                  15
Gly Ser Ala Ala Gly Ala Leu Lys Ser Ser Asn Asn Ser Gly Arg Ile
            20                  25                  30
Ser Leu Leu Leu Asp Asp Val Asp Asn Glu Met Ala Ala Ile Ala Met
        35                  40                  45
Gln Gly Phe Arg Ser Met Ile Glu Gln Phe Asn Val Asn Asn Pro Ala
    50                  55                  60
Thr Ala Lys Glu Leu Gln Ala Met Glu Ala Gln Leu Thr Ala Met Ser
65                  70                  75                  80
Asp Gln Leu Val Gly Ala Asp Gly Glu Leu Pro Ala Glu Ile Gln Ala
                85                  90                  95
Ile Lys Asp Ala Leu Ala Gln Ala Leu Lys Gln Pro Ser Ala Asp Gly
            100                 105                 110
Leu Ala Thr Ala Met Gly Gln Val Ala Phe Ala Ala Ala Lys Val Gly
        115                 120                 125
Gly Gly Ser Ala Gly Thr Ala Gly Thr Val Gln Met Asn Val Lys Gln
    130                 135                 140
Leu Tyr Lys Thr Ala Phe Ser Ser Thr Ser Ser Ser Ser Tyr Ala Ala
145                 150                 155                 160
Ala Leu Ser Asp Gly Tyr Ser Ala Tyr Lys Thr Leu Asn Ser Leu Tyr
                165                 170                 175
Ser Glu Ser Arg Ser Gly Val Gln Ser Ala Ile Ser Gln Thr Ala Asn
            180                 185                 190
Pro Ala Leu Ser Arg Ser Val Ser Arg Ser Gly Ile Glu Ser Gln Gly
        195                 200                 205
Arg Ser Ala Asp Ala Ser Gln Arg Ala Ala Glu Thr Ile Val Arg Asp
    210                 215                 220
Ser Gln Thr Leu Gly Asp Val Tyr Ser Arg Leu Gln Val Leu Asp Ser
225                 230                 235                 240
Leu Met Ser Thr Ile Val Ser Asn Pro Gln Ala Asn Gln Glu Glu Ile
                245                 250                 255
Met Gln Lys Leu Thr Ala Ser Ile Ser Lys Ala Pro Gln Phe Gly Tyr
            260                 265                 270
Pro Ala Val Gln Asn Ser Val Asp Ser Leu Gln Lys Phe Ala Ala Gln
        275                 280                 285
Leu Glu Arg Glu Phe Val Asp Gly Glu Arg Ser Leu Ala Glu Ser Gln
    290                 295                 300
Glu Asn Ala Phe Arg Lys Gln Pro Ala Phe Ile Gln Gln Val Leu Val
305                 310                 315                 320
Asn Ile Ala Ser Leu Phe Ser Gly Tyr Leu Ser
                325                 330
```

<210>821
<211>543
<212>PRT
<213>Chlamydia trachomatis
<400>821

```
Lys Lys Tyr Tyr Trp Asp Arg Phe Ala Thr Ser Thr Thr Val Glu Leu
 1               5                  10                  15
Arg Glu Leu Ala Met Asn Arg Ile His Arg Thr Gln Gly Ser Leu Thr
            20                  25                  30
Asp Tyr Asn Ser Thr Leu Glu Ala Ile Ala Lys Lys Ile Ala Lys Pro
        35                  40                  45
Asp Ser Ala Thr Ile Val Ser Gln Val Ala Gln Tyr Glu Gln Phe Lys
    50                  55                  60
Met Glu Gln Glu Ala Leu Lys Ala Leu Leu Val Ser Phe Asp Gln Lys
65                  70                  75                  80
Ala Asp Gln Arg Tyr Arg Asn Leu Ile Gln Arg Leu Glu Gln Leu Asp
                85                  90                  95
Val Asp Arg Gln Thr Gly Arg Ser Ile Glu Ser Pro His Ile Gln Glu
            100                 105                 110
Lys Pro Met Ala Ser Leu Gln Ser Glu Asn Gln Val Val Ala Gln Ala
        115                 120                 125
Val Val Gln Ser Asp Ser Ser Met Pro Ile Phe Thr Gly Ile Lys Gln
    130                 135                 140
Ser Trp Ala Val Arg Leu Val Gln Gly Ile Arg Glu Ile Leu Asp Gln
145                 150                 155                 160
Leu Leu Val Asp Thr Ser Leu Phe Thr Glu Glu Glu Arg Gly Asp Leu
                165                 170                 175
Leu Ala Ile Arg Met Asp Ala Ala Ser Leu Gln Asp Lys Gln Glu Arg
            180                 185                 190
Leu Ser Ala Glu Asp Ile Arg Ser Leu Leu Ser Leu Ser Asn Asp Val
        195                 200                 205
Met Arg Val Leu Gln Lys Ala Ser Val Ser Ser Thr Arg Gln Leu Glu
    210                 215                 220
Leu Ile Gln Ser Leu Ile Asp Ile Phe Gly Thr Glu Glu Asn Leu Glu
225                 230                 235                 240
Gln Ser Phe Ala Gln Val Arg Leu Glu Asn Phe Gln Ala Ile Leu Ser
                245                 250                 255
Val Ile Lys Glu Arg Leu Thr Glu Glu Glu Phe Arg Val Phe Gln Glu
            260                 265                 270
Val Ser Glu Glu Ile Ser Ser Ile Gln Arg Thr Ser Glu Ser His Leu
        275                 280                 285
Ser Pro Glu His Ile Glu Ala Ile Ala Arg Val Gly Gly Tyr Leu Ser
    290                 295                 300
Ala Lys Ile Val Glu Ser Glu Leu Lys Ala Ser Gln Lys Val Asp Leu
305                 310                 315                 320
Cys Gln Arg Ile Ala Ala Met Tyr Gln Glu Gln Val Asp Ala Val Gln
                325                 330                 335
Ala Tyr His Ser Leu Glu Gln Asp Ala Leu Phe Val Asn Ser Arg Gln
            340                 345                 350
His Gly Tyr Phe Val Gln Val Ile Ser Leu Val Ser Ser Leu Met His
        355                 360                 365
Ser Leu Ser Pro Thr Ser Glu Glu Glu Arg Ile Leu Leu Asn Pro Ala
    370                 375                 380
Met Met Val Ser Val Leu Pro Thr Val Arg Ala Ile Gly Leu Arg Phe
385                 390                 395                 400
Asp Phe Leu Thr Ala Glu Gln Gln Gln Met Val Asn Ala Ala Val Ser
                405                 410                 415
Ser Leu Gln Gln Gln Gln Leu Asp Glu Phe Leu Gly Val Leu Cys Ala
            420                 425                 430
His Leu Val Val Val Asn Cys Gln Asn Lys Glu Thr Gly Leu Leu Glu
        435                 440                 445
Gly Leu Glu Glu Ser Phe Ser Glu Thr Leu Ser Gly Leu Ser Asn Asn
    450                 455                 460
Phe Val Leu Thr Ala Lys Met Gln Asp Ile Leu Gln Val Cys Ser Leu
465                 470                 475                 480
Gln Gly Phe Val Thr Leu Ala Asn Gly Asp Arg Tyr Glu Leu Phe Ser
```

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485 490 495
Tyr Asn Asp Ser Gly Glu Ala Val Cys Asp Glu Ile Ala Leu Gly Asp
500 505 510
Gly Phe His Lys Val Leu Gly Thr Met Leu Ala Val Ala Leu Ser Gln
515 520 525
Ala Glu Val Phe Lys Ala Arg Val Arg Ser Ile His Ser Ala Ser
530 535 540

<210>822
<211>328
<212>PRT
<213>Chlamydia trachomatis
<400>822
Arg Phe Leu Lys Gln Arg Tyr Leu Lys Gln Glu Cys Asp Arg Phe Ile
1 5 10 15
Leu Gln Ala Asp Ser Glu Lys Asn Met Ile His Lys Arg Met Val Gln
20 25 30
Gly Glu Gln Lys Ser Leu Phe Leu Thr Lys Met Gln Thr Glu Leu Asn
35 40 45
Ala Gly Lys Thr Ile Ala Gln Thr Lys Glu Val Glu Ala Ser Pro Leu
50 55 60
Pro Ser Ala Val Ala Ser Val Leu Ile Asp His Tyr Met Pro Lys Glu
65 70 75 80
Val Glu Phe Leu Glu Lys Ile Ser Ser Arg Leu Tyr Tyr Gly Asn Lys
85 90 95
Gly Ser Asp Ile Gly Asn Thr Ile Leu Asp Ala Ile Ser Leu Tyr Val
100 105 110
Asn Ser Ala Thr Tyr Phe Gly Phe Ala Asn Tyr Ile Gly Gln Pro Pro
115 120 125
Val Val Gly Lys Thr Gly Glu Asn Ile Phe Ala Gly Ser Ala Asp Asn
130 135 140
Ala Lys Ala Lys Leu Asp Glu Glu Arg Lys Gln Val Asp Val Phe Leu
145 150 155 160
Glu Ile Thr Lys Ala Ala Lys Thr Thr Val Thr Asn Gln Gln Ser Ala
165 170 175
Val Thr Asp Asp Asp Lys Leu Ser Thr Glu Gln Lys Ala Lys Ile Asn
180 185 190
Ala Glu Leu Thr Gln Tyr Thr Asp Met Leu Asn Ala Ile Asn Asn Ser
195 200 205
Leu Thr Ser Leu Lys Thr Gln Leu Ala Pro Leu Ser Val Ser Thr Val
210 215 220
Glu Gly Val Asp Gly Val Phe Glu Val Lys Asn Gly Lys Pro Gly Glu
225 230 235 240
Asn Gly Lys Asn Trp Arg Leu Val Leu Gln Thr Leu Glu Asp Thr Val
245 250 255
Val Ser Gly Glu Val Gly Ser Pro Thr Asn Ile Gly Met Phe Gln Met
260 265 270
Gln Ala Leu Val His Ser Asn Gln Gln Ala Tyr Ala Asp Met Gly Gln
275 280 285
Asn Phe Gln Leu Glu Leu Gln Met His Leu Thr Ser Met Gln Gln Glu
290 295 300
Trp Met Val Val Ala Thr Ser Leu Gln Leu Leu Asn Gln Ile Tyr Leu
305 310 315 320
Gly Leu Ala Arg Asn Leu Leu Arg
325

<210>823
<211>461
<212>PRT
<213>Chlamydia trachomatis
<400>823
Leu Leu Asn Arg Lys Ile Ser Ser Met Lys Arg Ser Arg Asn Leu Met
1 5 10 15

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```
Thr Ser Gln Glu Val Thr Thr Ser Val Pro Phe Gly Leu Thr Leu Arg
                20                  25                  30
Leu Gln Gln Ser Ser Arg Leu Lys Thr Val Thr Thr Asp Glu Val Lys
            35                  40                  45
Gln Ala Leu Thr Ser Gln Ala Asn Thr Ile Val Ser Asp Phe Ser Leu
        50                  55                  60
Ala Gln Thr Leu Lys Ser Thr Ile Asn Lys Ile Val Gln Glu Asn Gly
 65                  70                  75                  80
Glu Phe Lys Ala Lys Val Asp Gly Ile Glu Arg Gln Tyr Thr Ile Phe
                85                  90                  95
Gly Pro Leu Lys Asn Asp Thr Ser Ser Asn Lys Ala Thr Leu Asn Pro
            100                 105                 110
Ile Leu Leu Asn Phe Gly Ser Ile Gly Phe Leu Pro Asn Ile Thr Leu
        115                 120                 125
Ala Ala Asn Asn His Ala Glu Thr Ser Ala Arg Ala Phe Phe Lys Phe
    130                 135                 140
Arg Ala Leu Ala Gln Val Glu Ser Thr Lys Leu Asp Gly Thr Leu Gln
145                 150                 155                 160
Gly Ser Glu Asn Phe Leu Gln Lys Ile Asn Gln Leu Arg Lys Asp Leu
                165                 170                 175
Phe Ser Tyr Gln Leu Leu Ala Gln Ser Tyr Glu Ile Arg Ser Leu Pro
            180                 185                 190
Leu Pro Ser Ala Val Ala Ser Val Leu Ile Asp Arg Tyr Met Pro Gln
        195                 200                 205
Glu Ile Asp Tyr Leu Thr Gln Met Lys Ser Asp Leu Tyr Tyr Ser Asn
    210                 215                 220
Phe Xaa Ser Ser Val Gly Asn Ala Met Ile Glu Ala Ile Ala Gln Phe
225                 230                 235                 240
Val Asn Gly Ala Thr Tyr Phe Asn Phe Ala Ser Phe Val Gly Gln Gln
                245                 250                 255
Pro Met Thr Ala Met Ala Xaa Asp Thr Phe Ser Gly Ser Lys Glu Thr
            260                 265                 270
Ala Glu Ala Lys Leu Ala Leu Glu Lys Gln Gln Ala Lys Leu Tyr Leu
        275                 280                 285
Gln Tyr Ala Thr Gln Ala Leu Lys Val Val Gln Glu Gln Met Glu Arg
    290                 295                 300
Val Gln Asn Asp Lys Val Ile Thr Asn Glu Gln Arg Leu Arg Ile Thr
305                 310                 315                 320
Asp Ala Leu Lys Gly Tyr Ala Asp Asn Leu Asn Ala Ile Ser Gly Ser
                325                 330                 335
Leu Val Leu Leu Gln Val Tyr Leu Asn Pro Leu Ser Val Gly Val Arg
            340                 345                 350
Asn Gly Asn Gln Arg Gly Asn Asp Thr Gly Thr Asn Pro Lys Gly Thr
        355                 360                 365
Phe His Val Phe Arg Gly Lys Asp Gln Trp Gln Ala Arg Leu Glu Ile
    370                 375                 380
Leu Glu Asp Ala Leu Val Ser Gly Leu Pro Ser Asn Ile Ile Ser Gly
385                 390                 395                 400
Gly Leu Phe Pro Leu Gln Ala Ser Val Gln Ser Asp Gln Gln Ala Tyr
                405                 410                 415
Ala Asp Met Gly Gln Asn Tyr Gln Leu Glu Met Gln Met His Met Thr
            420                 425                 430
Ala Met Gln Gln Glu Trp Thr Val Val Ala Thr Ser Leu Gln Ile Leu
        435                 440                 445
Asn Gln Ile Tyr Leu Gly Leu Thr Arg Lys Leu Ala Ser
    450                 455                 460
<210>824
<211>426
<212>PRT
<213>Chlamydia trachomatis
<400>824
```

09/744,940 = 09/744,940

```
Lys Thr Leu Val Glu Met Cys Ser Met Asn Ile Phe Asn Lys Ile Asn
 1               5                  10                  15
Ser Val Ser Lys Asp Tyr Thr Lys Ile Glu Glu Leu Phe Leu Pro Thr
            20                  25                  30
His Lys Asn Lys Thr Phe Cys Met Asn Gln Val Met Gln Phe Gln Lys
        35                  40                  45
Thr Glu Ile Glu Arg Ser Ala Ile Gln Asn Val Leu Ser Leu Leu Asp
    50                  55                  60
Leu Asp Asn Asp Val Lys Gly Lys Tyr Glu Gln Leu Val Ala Ser Leu
65                  70                  75                  80
Ser Ser Ser Ala Pro Thr Thr Thr Ser Gln Pro Ser Asp Glu Ser Ala
                85                  90                  95
Val Ile Thr Tyr Asp Pro Pro Ser Ser Asn Pro Leu Tyr Asn Ala Ser
            100                 105                 110
Lys Gln Ala Trp Val His Asn Val Leu Val Gly Phe Leu Ser Val Val
        115                 120                 125
Asn Glu Ala Lys Thr Lys Ala Thr Glu Ile Ala Gly Gln Gln Asn Pro
    130                 135                 140
Pro Gln Thr Asp Leu Lys Pro Leu Thr Asp Leu Phe Asp Ser Leu Thr
145                 150                 155                 160
Thr Leu Val Asp Lys Ala Asn His Arg Glu Leu Ser Asn Glu Asp Leu
                165                 170                 175
Glu Thr Phe Tyr Leu Leu Pro Asp Gln Ile Phe Ser Ala Ile Gln Thr
            180                 185                 190
Phe Pro Phe Glu Gly Asn Gln Lys Val Leu Phe Ser Asn Gln Leu Leu
        195                 200                 205
Asp Ser Phe Gly Glu Asp Ala Ser Ile Glu Gln Val Phe Ala Asp Ile
    210                 215                 220
Arg Ile Glu Gly Leu Gln Asp Thr Leu Asn Met Val Gln Ser Arg Leu
225                 230                 235                 240
Ser Ala Thr Glu Phe Glu Ser Phe Lys Glu Leu Gln Met Ile Ile Asp
                245                 250                 255
Thr Leu Arg Glu Tyr Val Glu Pro Phe Asn Asp Glu Gly Phe Asp Thr
            260                 265                 270
Ile Leu Gln Thr Ser Lys Asp Leu Ser Ser Ala Ile Ile Asn Ser Ser
        275                 280                 285
Leu Ser Ser Asn Asp Lys Ile Glu Leu Cys Arg Asn Ile Ala Asp Leu
    290                 295                 300
Tyr Arg Asp Gln Val Leu Ser Ile Lys Asn Leu Asp Asn Val Leu Asn
305                 310                 315                 320
Glu Thr Ile Tyr Ile Asn Ala Arg Asn Ser Ser Leu Phe Ser Asn Ile
                325                 330                 335
Cys Ser Leu Val Glu Phe Ile Met Gly Ser Phe Ala Pro Ile Gly Leu
            340                 345                 350
Asn Glu Thr Thr Ile Glu Val Thr Asn Ala Ser Ile Ala Gly Ala Leu
        355                 360                 365
Gln Ala Val Arg Ala Ile Asp Thr Arg Phe His Glu Leu Thr Pro Glu
    370                 375                 380
Gln Lys Asn Leu Val Asn Glu Thr Val Lys Lys Leu Asp Asp Phe Ser
385                 390                 395                 400
Gly Gly Asn Tyr Ile Gly Ala Phe Trp Ala Tyr Phe Thr Ser Ala Thr
                405                 410                 415
Val Val Ser Ser Lys Asp Cys Asp Asn Arg
            420                 425
```

<210>825
<211>206
<212>PRT
<213>Chlamydia trachomatis
<400>825

```
Ile Leu Gly Gln Leu Leu Tyr Leu Glu Arg Val Tyr Leu Arg Leu Asn
 1               5                  10                  15
```

```
Ser Ala Asn Pro Cys Ser Asp Phe Lys Asn Gln Ala Arg Pro Ala Ile
            20                  25                  30
Asp Met Glu Glu Leu Asn Ser Gly Leu Tyr Val Leu Arg Arg Leu Ala
        35                  40                  45
Val Ala Leu Glu Ala Gly Tyr Xaa Gly Val Gly Ser Val Val Asn Pro
    50                  55                  60
Ser Asn Arg Val Phe Pro Gly Gly Asp Trp Gly Val Arg Arg Ala Ala
65                  70                  75                  80
Gly Gly Ser Thr Pro Ala Ala Gly Thr Ile Ser Gly Ser Thr Xaa Ala
                85                  90                  95
Asp Ile Lys Gln Ser Thr Ala Lys Val Leu Val Thr Thr Ile Thr Asp
            100                 105                 110
Ser Leu Asn Ala Leu Ile Glu Asp Val Pro Glu Val Pro Met Thr Gln
        115                 120                 125
Val Thr Gly Val Ser Ser Asn Leu Val Leu Met Glu Ser Tyr Gln Gln
    130                 135                 140
Lys Asp Ser Leu Asn Asp Thr Glu Gln Ala Ser Val Phe Ala Ser Ala
145                 150                 155                 160
Tyr Ala Pro Ser Asp Glu Ser Ile Lys Thr Val Ile Lys Lys Glu Gln
                165                 170                 175
Glu Lys Glu Leu Gln Glu Gly Lys Asp Arg Val Thr Ala Gln Leu Thr
            180                 185                 190
Ala Gln Gly Ala Ser Asp Gln Val Ile Glu Lys Ser Leu Gly
        195                 200                 205
<210>826
<211>398
<212>PRT
<213>Chlamydia trachomatis
<400>826
Arg Ser Leu Trp Ala Asp Tyr Glu Lys Tyr Tyr Val Asp Glu Tyr Phe
  1                 5                  10                  15
Asp Thr His Val Lys Glu Ala Leu Trp Lys His Arg Ala Ser Ile Gly
            20                  25                  30
Glu Asn Ile Gln Glu Met Leu Asp Gln Cys Leu Asn Leu Gly Leu Asp
        35                  40                  45
Val Pro Asp Ser Leu Thr Lys Glu Asn Ile Asn Asp Ala Asn Ala Lys
    50                  55                  60
Leu Val Leu Gln Ala Trp Met Glu Ala Phe Asn Asn Ala Met Glu Val
65                  70                  75                  80
Glu Pro Ala Leu Gly Gly Ser Lys Glu Val Ile Asp Ser Val Leu Lys
                85                  90                  95
Met Ile Pro Phe Ala Lys Gln Ser Ser Asn Leu Ser Asp Thr Asp Ile
            100                 105                 110
Asn Thr Ile Tyr Thr Gln Ala Ala Leu Pro Pro Pro Glu Val Met Asp
        115                 120                 125
Tyr Tyr Leu Thr Arg Gln Asp Ala Gly Ile Cys Lys Gly Glu Val Val
    130                 135                 140
Lys Ala Phe Gln Gln Ala Thr Gln Asn Leu Gln Ser Val Arg Ser Asn
145                 150                 155                 160
Val Glu Glu Gln Ile Lys Glu Leu Glu Val Lys Lys Thr Ser Phe Leu
                165                 170                 175
Gln Ala Gln Ala Ser Leu Glu Ser Met Leu Glu Gly Val Lys Arg Leu
            180                 185                 190
Asn Asp Asn Gln Lys Phe Thr Ser Val Arg Leu Thr Ser Val Met Glu
        195                 200                 205
Cys Tyr Ala Gly Leu Ile Ala Leu Ser Gln Ile Thr Asp Val Leu Asp
    210                 215                 220
Ser Ala Gly Ile Ser Leu Ile Thr Gln Tyr Val Asp Lys Phe Leu Lys
225                 230                 235                 240
Leu Asn Asn Ala His Thr Ala Gln Thr Leu Ala His Val Ile Ser Tyr
                245                 250                 255
```

```
Met Ala Ala Tyr Cys Glu Val Ala Glu Cys Thr Met Ala Ser Thr Ile
            260                 265                 270
Val Ser Glu Asp Thr Val Leu Gln Lys Val Lys Asp Lys Trp Asn Glu
        275                 280                 285
Leu Lys Lys Glu Lys Phe Phe Glu Ser Phe Thr Leu Pro Asp Asp Asn
    290                 295                 300
Glu Leu Lys Thr Asn Tyr Ile Thr Ser Thr Asn Asn Val Cys Arg Ala
305                 310                 315                 320
Asn Phe Ser Asn Phe Val Asn Thr Val Ile Thr Glu Lys Ile Asn Leu
                325                 330                 335
Thr Val Ala Val Arg Glu Ala Gln Ser Leu Leu Thr Glu Phe Gln Gly
            340                 345                 350
Lys Ala Ser Glu Tyr Leu Asn Thr Phe Gln Ser Glu Ile Asn Thr Leu
        355                 360                 365
Asn Gln Thr Tyr Asp Thr Leu Asp Pro Ala Lys Ala Ser Phe Asn Tyr
    370                 375                 380
Phe Tyr Arg Glu Tyr Thr Phe Phe Thr Cys Thr Gly Cys Arg
385                 390                 395
<210>827
<211>106
<212>PRT
<213>Chlamydia trachomatis
<400>827
Ile Gln Pro Lys Leu Leu Leu Ile Thr Ser Thr Gly Ser Thr Pro Ser
  1               5                  10                  15
Leu Arg Ala Gln Ala Val Asp Ser Trp Ile Asp Ser Thr Ser Leu Gly
            20                  25                  30
Ser Ala Phe Ile His Leu Ile Leu Asn Thr Gln Ile Pro Lys Gln Glu
        35                  40                  45
Asn Phe Leu Asn Pro Leu Ile Gln Glu Val Asn Phe Asn Asn Val Ala
    50                  55                  60
Ala Asn Ala Val Asn Asp Leu Leu Ser Ile Thr Asn Asn Phe Ser Thr
65                  70                  75                  80
Ser Ser Val Tyr Tyr Asn Leu Ser Ser Tyr Leu Val Glu Ser Lys Ala
                85                  90                  95
Arg Lys Arg Phe Ile Leu Trp Gly Phe Leu
            100                 105
<210>828
<211>201
<212>PRT
<213>Chlamydia trachomatis
<400>828
Lys Ala Arg Gln Gly Lys Asp Leu Phe Cys Gly Asp Phe Phe Glu Phe
  1               5                  10                  15
Met Gly Ala Leu Ala Lys Glu His Glu Tyr Ile Val Arg Asp Ile Lys
            20                  25                  30
Ser Cys Tyr Arg Ala Glu Val Phe Gly Glu Ala Leu Leu Ala Arg Val
        35                  40                  45
Glu Ala Leu Ala Gln Gly His Lys Val Thr Asp Ala Lys Ala Asn Ser
    50                  55                  60
Met Arg Thr Gln Ala Asn Leu Tyr Leu Ser Phe Ile Arg Ile Ile Val
65                  70                  75                  80
Glu Gln Leu Ala Val Leu Asp Ser Leu Leu Arg Ser Leu Asn Tyr Glu
                85                  90                  95
Val Glu Lys Lys Asp Asn Asn Tyr Asp Lys Asp Lys Tyr Lys Ile Thr
            100                 105                 110
Gly Pro Thr Asp Trp Ile Ser Thr Leu Ala Ser Leu Glu Gly Tyr Ala
        115                 120                 125
Val Asn Gly Phe Asp Asn Ala Ser Leu Ser Gly Gly Leu Gly Pro Met
    130                 135                 140
His Thr Leu Val Gln Thr Asp Gln His Asp Tyr Leu Thr Gln Ser Gln
```

09/826,746 = 09/826,746

145 150 155 160
Thr Gln Gln Leu Asn Leu Gln Asn Gln Met Thr Asn Ile Gln Gln Glu
165 170 175
Trp Thr Leu Val Ser Thr Ser Met Gln Val Leu Asn Gly Ile Leu Ser
180 185 190
His Leu Ala Ala Glu Ile Tyr Ser Asn
195 200

<210>829
<211>300
<212>PRT
<213>Chlamydia trachomatis
<400>829
Phe Phe Leu Glu Val Ser Thr Met Ala Ala Thr Val Pro Ile Ala Ser
1 5 10 15
Pro Val Gly Arg Leu Leu Ser Ser Ala Thr Ala Thr Thr Leu Arg Gly
20 25 30
Asn Ala Thr Ser Leu Arg Ser Lys Leu Ser Ser Val Asn Asp Leu Phe
35 40 45
Asp Leu Ile Ser Ser Ser Cys Thr Leu Ala Arg Val Thr Pro Arg Thr
50 55 60
Thr Val Ser Xaa Thr Gln Gln Gln Gln Leu Ser Thr Ile Glu Thr Thr
65 70 75 80
Leu Gly Ser Ala Lys Ser Ala Ser Asn Ala Val Gln Ala Xaa Cys Gly
85 90 95
Ile Val Gln Leu Leu Thr Gly Gly Leu Phe Phe Lys Thr Asn Pro Asp
100 105 110
Gly Ser Phe His Leu Asp Leu Val Ser Gln Gln Arg Thr Leu Leu Ser
115 120 125
Pro Leu Ser Leu Val Ser Lys Val Thr Arg Leu Ala Ser Lys Val Leu
130 135 140
Gly Thr Val Lys Phe Met Gly Ser Gln Thr Phe Pro Val Tyr Gln Leu
145 150 155 160
Gly Ala His Ala Thr Gly Ile Gly Leu Ser Ala Ser Ala Phe Gly Thr
165 170 175
Val Ser Pro Pro Ser Met Ser Gln Lys Thr Gln Glu Lys Phe Ser Gly
180 185 190
Thr Ser Asn Arg Ile Asn Leu Gln Lys Glu His Leu Lys Lys Thr Ala
195 200 205
Ser Trp His Val Leu Lys Glu Leu Val Gln Val Cys Ser Thr Cys Phe
210 215 220
Ala Ala Ser Trp Thr Cys Trp Leu Arg Leu Ser Val Ser Ser Ala Met
225 230 235 240
Gln Phe Leu Gln His Leu Trp Glu Cys Thr Pro Leu Leu Leu Trp Val
245 250 255
Ser Ser Ala Ser Tyr Leu Leu Trp Glu Met Leu Phe Phe Leu Ser Leu
260 265 270
Phe Lys Val Cys Lys His His Ile Leu Glu Ala Arg Arg Tyr Ile Ser
275 280 285
Ala Ser Xaa Phe Leu Ile Arg Ile Asn Phe Arg Cys
290 295 300

<210>830
<211>161
<212>PRT
<213>Chlamydia trachomatis
<400>830
Trp Ile Phe Pro Pro Arg Ser Cys Phe Ala Thr Lys Asn Pro Pro Val
1 5 10 15
Ser Thr Ile Thr Cys Gln Gln Ser Asn Ser Phe Ser Gln Gln Ser Ser
20 25 30
Arg Asn Arg Glu Ile His Gly Leu Pro Asn Phe Pro Cys Leu Pro Val
35 40 45

Sequence Listing

```
Gly Cys Thr Arg Asn Trp Tyr Trp Leu Ile Cys Phe Cys Val Trp Asn
     50                  55                  60
Cys Gln Ser Ala Phe Asp Val Ala Glu Asn Ser Arg Glu Val Leu Gly
 65                  70                  75                  80
Asn Leu Lys Gln Asn Lys Pro Thr Glu Gly Thr Ser Lys Glu Asn Gly
                 85                  90                  95
Phe Met Ala Arg Leu Lys Arg Ala Arg Ala Ser Met Phe Asn Leu Leu
            100                 105                 110
Cys Ser Ile Leu Asp Leu Leu Ala Gln Ala Phe Cys Phe Ile Ser Asp
        115                 120                 125
Ala Val Ser Thr Ala Phe Met Gly Val His Thr Ala Phe Ile Val Gly
    130                 135                 140
Ile Phe Cys Phe Leu Ser Ala Leu Gly Asn Val Ile Leu Ser Ile Ala
145                 150                 155                 160
Phe
```

<210>831
<211>102
<212>PRT
<213>Chlamydia trachomatis
<400>831

```
Leu Gly Glu Ile Met Ala Pro Arg Lys Pro Ser Lys Lys Val Gly Pro
  1                 5                  10                  15
Gln Lys Arg Pro Ser Ala Glu Lys Arg Val Ile Thr Ser Lys Lys Lys
            20                  25                  30
Gln Leu Arg Asn Gln Ser Phe Lys Ser Lys Val Arg Thr Ile Leu Lys
        35                  40                  45
Lys Phe Glu Leu Ala Val Gln Ser Gly Asp Val Glu Ser Ile Ser Ala
     50                  55                  60
Gly Leu Arg Ser Val Tyr Ser Ile Ala Asp Lys Ala Val Lys Arg Gly
 65                  70                  75                  80
Ile Phe Lys Lys Gly Lys Ala Asp Arg Val Lys Ser Arg Ala Ser Glu
                 85                  90                  95
Arg Ala Cys Pro Ala Ala
            100
```

<210>832
<211>447
<212>PRT
<213>Chlamydia trachomatis
<400>832

```
Ser Ile Pro Lys Phe Ala Ile Cys Arg Asp Ile Val Trp Gly Cys Thr
  1                 5                  10                  15
Ala Gly Met Gln Tyr Val Met Gly Arg Thr Asn Ser Met Thr Arg Gly
            20                  25                  30
Phe Leu Asn Lys Arg Arg Val Leu Glu Lys Cys Arg Thr Ala Lys Gln
        35                  40                  45
Lys Ile His Tyr Cys Ile Ser Arg Tyr Phe His Tyr Leu Pro Pro Val
     50                  55                  60
Leu Ala Ile Leu Leu Pro Ile Gly Ser Trp Pro Phe Leu Ser Glu Gln
 65                  70                  75                  80
Gln Trp Trp Cys Gly Ser Phe Leu Phe Pro Val Val Ser Ser Leu Gly
                 85                  90                  95
Trp Leu Phe Ala Ile Gly Arg Arg Glu Arg Gln Leu Arg Ala Ala Ala
            100                 105                 110
Gly Gln Leu Leu Glu Ala Lys Ile Arg Lys Leu Thr Glu Gln Asp Glu
        115                 120                 125
Gly Leu Lys Asn Ile Arg Glu Thr Ile Glu Lys Arg Gln Lys Glu Thr
    130                 135                 140
Asp Arg Leu Lys Leu His Asn Asp Lys Leu Val Glu Gln Leu Gly Gln
145                 150                 155                 160
Ala Arg Glu Val Phe Ile Gln Ala Lys Gly Arg Tyr Asp His Met Glu
```

```
                165                 170                 175
Glu Leu Ser Arg Arg Leu Lys Glu Glu Asn Gln Gln Leu Gln Met Gln
            180                 185                 190
Leu Glu Ala Ala Val Arg Glu Arg Asn Glu Lys Ile Leu Glu Asn Gln
        195                 200                 205
Glu Leu Leu Gln Glu Leu Lys Glu Thr Leu Ala Tyr Gln Gln Glu Leu
    210                 215                 220
His Asp Glu Tyr Gln Ala Thr Phe Val Glu Gln His Ser Met Leu Asp
225                 230                 235                 240
Lys Arg Gln Ala Tyr Ile Gly Asn Leu Glu Ala Lys Val Gln Asp Leu
                245                 250                 255
Met Cys Glu Leu Arg Asn Leu Leu Gln Leu Glu Met Gly Ala Lys Thr
            260                 265                 270
Asn Leu Pro Gly Lys Pro Val Ala Ser Arg Asp Val Val Ala Gln Leu
        275                 280                 285
Val Leu Glu Phe Arg Lys Ile Val Phe Arg Val Glu Thr Thr Glu Ala
    290                 295                 300
Ala Asp Ser Leu Thr Ala Leu Arg Tyr Thr Arg Thr Asp Pro Ser Ala
305                 310                 315                 320
His Asn Tyr Ser Leu Ala Cys Arg Gln Leu Phe Asp Gly Leu Arg Glu
                325                 330                 335
Glu Asn Leu Gly Met Leu Phe Ile Tyr Ala Pro Phe Ala Gln Arg Ser
            340                 345                 350
Phe Leu Pro Met Leu Cys Leu Thr Asp Trp Thr Gly Tyr Gly Leu Glu
        355                 360                 365
Asp Phe Leu Asn Arg Glu Ser Asp Val Val Leu Glu Gly Phe Ala Gln
    370                 375                 380
Trp Glu Arg Asp Leu Leu Thr Glu Ser Arg Val Glu Arg Ser Gly Lys
385                 390                 395                 400
Ile Val Ile Lys Thr Lys Ala Phe Gly Ala Thr Pro Phe Tyr Tyr Cys
                405                 410                 415
Val Val Thr Leu Asp Lys Gly Pro Phe Ala Gln His Ile Leu Gly Val
            420                 425                 430
Leu Tyr Pro Ala Lys Ala Ser Phe Phe Thr Asn Leu Ser Tyr Ile
        435                 440                 445
<210>833
<211>571
<212>PRT
<213>Chlamydia trachomatis
<400>833
Met Arg Met Asp Thr Leu Asp Ser Gln Ala Ala Glu Ala Ala Gln Glu
  1               5                  10                  15
Glu Glu Ile Gln Arg Lys Leu Glu Glu Leu Val Thr Leu Ala Lys Asp
             20                  25                  30
Gln Gly Phe Ile Thr Tyr Glu Glu Ile Asn Glu Ile Leu Pro Pro Ser
         35                  40                  45
Phe Asp Thr Pro Glu Gln Ile Asp Gln Val Leu Ile Phe Leu Ala Gly
     50                  55                  60
Met Asp Val Gln Val Leu Asn Gln Ala Asp Val Glu Arg Gln Lys Glu
 65                  70                  75                  80
Arg Lys Lys Glu Ala Lys Glu Leu Glu Gly Leu Ala Lys Arg Ser Glu
                 85                  90                  95
Gly Thr Pro Asp Asp Pro Val Arg Met Tyr Leu Lys Glu Met Gly Thr
            100                 105                 110
Val Pro Leu Leu Thr Arg Glu Glu Glu Val Glu Ile Ser Lys Arg Ile
        115                 120                 125
Glu Lys Ala Gln Val Gln Ile Glu Arg Ile Ile Leu Arg Phe Arg Tyr
    130                 135                 140
Ser Thr Lys Glu Ala Val Ser Ile Ala Gln Tyr Leu Ile Asn Gly Lys
145                 150                 155                 160
Glu Arg Phe Asp Lys Ile Val Ser Glu Lys Glu Val Glu Asp Lys Thr
```

```
                165                 170                 175
His Phe Leu Asn Leu Leu Pro Lys Leu Ile Ser Leu Leu Lys Glu Glu
            180                 185                 190
Asp Ala Tyr Leu Glu Glu Arg Leu Leu Ala Leu Lys Asp Pro Ala Leu
        195                 200                 205
Ser Lys Pro Asp Gln Ala Arg Leu Asn Asp Glu Leu Glu Lys Cys Arg
    210                 215                 220
Ile Arg Thr Gln Ala Tyr Leu Arg Cys Phe His Cys Arg His Asn Val
225                 230                 235                 240
Thr Glu Asp Phe Gly Glu Val Val Phe Lys Ala Tyr Asp Ser Phe Leu
                245                 250                 255
Gln Leu Glu Gln Gln Ile Asn Asp Leu Lys Ala Arg Ala Glu Arg Asn
            260                 265                 270
Lys Phe Ala Ala Ala Lys Leu Ala Ala Ala Arg Arg Lys Leu His Lys
        275                 280                 285
Arg Glu Val Ala Ala Gly Arg Thr Leu Glu Glu Phe Lys Lys Asp Val
    290                 295                 300
Arg Met Leu Gln Arg Trp Met Asp Lys Ser Gln Glu Ala Lys Lys Glu
305                 310                 315                 320
Met Val Glu Ser Asn Leu Arg Leu Val Ile Ser Ile Ala Lys Lys Tyr
                325                 330                 335
Thr Asn Arg Gly Leu Ser Phe Leu Asp Leu Ile Gln Glu Gly Asn Met
            340                 345                 350
Gly Leu Met Lys Ala Val Glu Lys Phe Glu Tyr Arg Arg Gly Tyr Lys
        355                 360                 365
Phe Ser Thr Tyr Ala Thr Trp Trp Ile Arg Gln Ala Val Thr Arg Ala
    370                 375                 380
Ile Ala Asp Gln Ala Arg Thr Ile Arg Ile Pro Val His Met Ile Glu
385                 390                 395                 400
Thr Ile Asn Lys Val Leu Arg Gly Ala Lys Lys Leu Met Met Glu Thr
                405                 410                 415
Gly Lys Glu Pro Thr Pro Glu Glu Leu Gly Glu Glu Leu Gly Phe Thr
            420                 425                 430
Pro Asp Arg Val Arg Glu Ile Tyr Lys Ile Ala Gln His Pro Ile Ser
        435                 440                 445
Leu Gln Ala Glu Val Gly Asp Gly Gly Glu Ser Ser Phe Gly Asp Phe
    450                 455                 460
Leu Glu Asp Thr Ala Val Glu Ser Pro Ala Glu Ala Thr Gly Tyr Ser
465                 470                 475                 480
Met Leu Lys Asp Lys Met Lys Glu Val Leu Lys Thr Leu Thr Asp Arg
                485                 490                 495
Glu Arg Phe Val Leu Ile His Arg Phe Gly Leu Leu Asp Gly Arg Pro
            500                 505                 510
Lys Thr Leu Glu Glu Val Gly Ser Ala Phe Asn Val Thr Arg Glu Arg
        515                 520                 525
Ile Arg Gln Ile Glu Ala Lys Ala Leu Arg Lys Met Arg His Pro Ile
    530                 535                 540
Arg Ser Lys Gln Leu Arg Ala Phe Leu Asp Leu Leu Glu Glu Glu Lys
545                 550                 555                 560
Ile Gly Ser Gly Lys Ile Lys Ser Tyr Lys Asn
                565                 570
```

<210>834
<211>130
<212>PRT
<213>Chlamydia trachomatis
<400>834

```
Ser Cys Cys Leu Gln Gly Val Leu Leu Tyr Arg Leu Asp Ile Ala Asp
  1               5                  10                  15
Phe Arg Val Trp Val Ser Ile Gly Val Ser Glu Gln Glu Arg His Tyr
            20                  25                  30
Pro Gln Pro Val Leu Val Ser Leu Ser Leu Phe Phe Lys Glu Glu Pro
```

```
          35                  40                  45
Lys Ala Trp Ser Thr Asp Lys Val Ser Asp Ser Val Cys Tyr Ala Glu
      50                  55                  60
Leu Val Ser Leu Ile Glu Glu Val Ala Thr Asn Asn Pro Cys Ala Leu
 65                  70                  75                  80
Ile Glu Arg Leu Ala Lys Val Leu Leu Glu Lys Ile Glu Lys Ala Leu
                 85                  90                  95
Ala Gly Gln Val Ser Arg Ile Asp Leu Arg Val Ser Lys Glu Arg Pro
            100                 105                 110
Pro Ile Pro Asp Leu Leu Ser Pro Val Ser Phe Ser Ile Ser Arg Glu
        115                 120                 125
Val Pro
    130
<210>835
<211>233
<212>PRT
<213>Chlamydia trachomatis
<400>835
Arg Gly Ala Met Thr Ser Trp Asn Phe Val Cys Leu Ser Leu Gly Ser
  1                 5                  10                  15
Asn Leu Gly Asn Arg His Glu His Ile Arg Arg Ala Tyr Ala Ser Leu
            20                  25                  30
Lys Lys Ala Gly Ile Arg Asn Leu Lys Ser Ser Val Ile Leu Glu Thr
        35                  40                  45
Lys Ala Leu Leu Leu Glu Gly Ala Pro Lys Glu Trp Asp Leu Pro Tyr
    50                  55                  60
Phe Asn Ser Val Val Ile Gly Glu Thr Gln Leu Ser Pro Asp Glu Leu
 65                  70                  75                  80
Ile Glu Glu Ile Lys Met Ile Glu Ser Arg Phe Gly Gln Asp Ala Ser
                 85                  90                  95
Leu Lys Trp Gly Pro Arg Pro Ile Asp Ile Asp Val Leu Phe Tyr Gly
            100                 105                 110
Asp Glu Ala Phe Ser Tyr His Ser Asp Lys Cys Thr Ile Pro His Pro
        115                 120                 125
Lys Val Leu Glu Arg Pro Phe Ile Leu Ser Met Met Ala Ser Leu Cys
    130                 135                 140
Pro Tyr Arg Arg Phe Arg Leu Glu Gly Ser Ser Cys Asn Gly Lys Thr
145                 150                 155                 160
Phe Ala Glu Leu Ala Ala Ile Tyr Pro Leu Thr Glu Glu Asp Ala Leu
                165                 170                 175
Gly Ser Phe Gly Ser Ala Thr Gln Ile Met Gly Ile Val Asn Ile Thr
            180                 185                 190
Asp Asn Ser Ile Ser Asp Thr Gly Leu Phe Leu Glu Ala Ser Arg Ala
        195                 200                 205
Ala Ala His Ala Glu Arg Leu Phe Ala Glu Gly Ala Ser Ile Ile Asp
    210                 215                 220
Leu Gly Ala Gln Gln Pro Ile Leu Val
225                 230
<210>836
<211>229
<212>PRT
<213>Chlamydia trachomatis
<400>836
Phe Arg Gly Ala Thr Thr Asn Pro Arg Val Lys Asp Leu Gly Ser Val
  1                 5                  10                  15
Glu Gln Glu Trp Glu Arg Leu Glu Pro Val Leu Arg Leu Leu Ala Glu
            20                  25                  30
Gly Trp Gly Ala Ala Gln Gln Cys Pro Asp Val Ser Ile Asp Thr Phe
        35                  40                  45
Arg Pro Glu Ile Ile Arg Arg Ala Val Glu Val Phe Pro Ile Arg Trp
    50                  55                  60
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Ile Asn Asp Val Ser Gly Gly Ser Leu Glu Met Ala His Leu Ala Lys
65 70 75 80
Glu Phe Gly Leu Arg Leu Leu Ile Asn His Ser Cys Ser Leu Pro Pro
85 90 95
Arg Pro Asp Cys Val Leu Ser Tyr Glu Glu Ser Pro Ile Glu Gln Met
100 105 110
Leu Arg Trp Gly Glu Ser Gln Leu Glu Gln Phe Ala Gln Val Gly Leu
115 120 125
Asp Thr Ser Trp Gln Val Val Phe Asp Pro Gly Ile Gly Phe Gly Lys
130 135 140
Thr Pro Val Gln Ser Met Leu Leu Met Asp Gly Val Lys Gln Phe Lys
145 150 155 160
Arg Val Leu Glu Cys Pro Val Leu Ile Gly His Ser Arg Lys Ser Cys
165 170 175
Leu Ser Met Leu Gly Arg Phe Asn Ser Asp Asp Arg Asp Trp Glu Thr
180 185 190
Ile Gly Cys Ser Val Ser Leu His Asp Arg Gly Val Asp Tyr Leu Arg
195 200 205
Val His Gln Val Glu Gly Asn Arg Arg Ala Leu Ala Ala Ala Ala Trp
210 215 220
Ala Gly Met Phe Val
225

<210>837
<211>165
<212>PRT
<213>Chlamydia trachomatis
<400>837
Leu Gly Trp Tyr Val Cys Met Ile Gln Ala Thr Gly Ile Val Ala Ile
1 5 10 15
Asp Pro Arg Gly Val Met Gly Ala Leu Gly Lys Leu Pro Trp Ser Tyr
20 25 30
Pro Glu Asp Leu Arg Phe Phe Ala Glu Thr Ile Arg Asn His Pro Ile
35 40 45
Ile Met Gly Arg Lys Thr Trp Glu Ser Leu Pro Asp Lys Tyr Lys His
50 55 60
Gly Arg Asp Ile Val Val Phe Ser Arg Arg Met His Pro Pro Gln Cys
65 70 75 80
Ile Gly Val Ser Ser Phe Ala Glu Tyr Gly Thr Leu Ser Leu Asn His
85 90 95
Pro Phe Leu Ile Gly Gly Ala Glu Leu Phe Glu Ser Phe Phe Gln Gln
100 105 110
Asn Leu Leu Lys Ala Cys Phe Val Thr His Ile Lys Lys Lys Tyr Trp
115 120 125
Gly Asp Thr Phe Phe Pro Ile Thr Arg Leu Ser Gly Trp Lys Lys Glu
130 135 140
Cys Ile Cys Asn Thr Glu Asp Phe Ser Ile Tyr Tyr Tyr Glu Asn Asn
145 150 155 160
Ser Asp Gln Asn Thr
165

<210>838
<211>198
<212>PRT
<213>Chlamydia trachomatis
<400>838
Ser Ala Val Ala Asp Ala Arg Met Cys Lys Ala Glu Leu Ile Lys Lys
1 5 10 15
Glu Ala Asp Ala Tyr Leu Phe Cys Glu Lys Ser Gly Ile Tyr Leu Thr
20 25 30
Lys Lys Glu Gly Ile Leu Ile Pro Ser Ala Gly Ile Asp Glu Ser Asn
35 40 45
Thr Asp Gln Pro Phe Val Leu Tyr Pro Lys Asp Ile Leu Gly Ser Cys

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     50                  55                  60
Asn Arg Ile Gly Glu Trp Leu Arg Asn Tyr Phe Arg Val Lys Glu Leu
 65                  70                  75                  80
Gly Val Ile Ile Thr Asp Ser His Thr Thr Pro Met Arg Arg Gly Val
                 85                  90                  95
Leu Gly Ile Gly Leu Cys Trp Tyr Gly Phe Ser Pro Leu His Asn Tyr
            100                 105                 110
Ile Gly Ser Leu Asp Cys Phe Gly Arg Pro Leu Gln Met Thr Gln Ser
        115                 120                 125
Asn Leu Val Asp Ala Leu Ala Val Ala Ala Val Val Cys Met Gly Glu
    130                 135                 140
Gly Asn Glu Gln Thr Pro Leu Ala Val Ile Glu Gln Ala Pro Asn Met
145                 150                 155                 160
Val Tyr His Ser Tyr Pro Thr Ser Arg Glu Glu Tyr Cys Ser Leu Arg
                165                 170                 175
Ile Asp Glu Thr Glu Asp Leu Tyr Gly Pro Phe Leu Gln Ala Val Thr
            180                 185                 190
Trp Ser Gln Glu Lys Lys
        195
<210>839
<211>250
<212>PRT
<213>Chlamydia trachomatis
<400>839
Asn Arg Gly Leu Ile Arg Thr Phe Phe Ala Ser Gly Tyr Val Glu Ser
  1                 5                  10                  15
Arg Lys Glu Met Met Glu Val Phe Met Asn Phe Leu Asp Gln Leu Asp
             20                  25                  30
Leu Ile Ile Gln Asn Lys His Met Leu Glu His Thr Phe Tyr Val Lys
         35                  40                  45
Trp Ser Lys Gly Glu Leu Thr Lys Glu Gln Leu Gln Ala Tyr Ala Lys
     50                  55                  60
Asp Tyr Tyr Leu His Ile Xaa Ala Phe Pro Lys Tyr Leu Asp Ala Ile
 65                  70                  75                  80
His Ser Arg Cys Asp Asp Leu Glu Ala Arg Lys Leu Leu Leu Asp Asn
                 85                  90                  95
Leu Met Asp Glu Glu Asn Gly Tyr Pro Asn His Ile Asp Leu Trp Lys
            100                 105                 110
Gln Phe Val Phe Ala Leu Gly Val Thr Pro Glu Glu Leu Glu Ala His
        115                 120                 125
Glu Pro Ser Glu Ala Ala Lys Ala Lys Val Ala Thr Phe Met Arg Trp
    130                 135                 140
Cys Thr Gly Asp Ser Leu Ala Ala Gly Val Ala Ala Leu Tyr Ser Tyr
145                 150                 155                 160
Glu Ser Gln Ile Pro Arg Ile Ala Arg Glu Lys Ile Arg Gly Leu Thr
                165                 170                 175
Glu Tyr Phe Gly Phe Ser Asn Pro Glu Asp Tyr Ala Tyr Phe Thr Glu
            180                 185                 190
His Glu Glu Ala Asp Gly Arg His Ala Arg Glu Glu Lys Ala Leu Ile
        195                 200                 205
Glu Met Leu Leu Lys Asp Asp Ala Asp Lys Val Leu Glu Ala Ser Gln
    210                 215                 220
Glu Val Thr Gln Ser Leu Tyr Gly Phe Leu Asp Ser Phe Leu Asp Pro
225                 230                 235                 240
Arg Thr Cys Cys Ser Cys His Gln Ser Tyr
                245                 250
<210>840
<211>437
<212>PRT
<213>Chlamydia trachomatis
<400>840
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Pro Met Leu His Gln His Gln Thr Ala Ser Val Ala Leu Cys Pro Ala
 1               5                  10                  15
Leu His Leu Gln Gln Gly Leu Asp Met Leu Gln Met Pro Val Ala Glu
            20                  25                  30
Leu Ala Thr Phe Val Ser Gln Gln Ile Thr Ile Asn Pro Cys Phe Asp
        35                  40                  45
Leu Asp Ser Leu Asp Ser Pro Pro Glu Ser Phe Ser Phe Phe Pro Ile
    50                  55                  60
Ser Glu Gln His Pro Phe Thr Glu Thr Leu Ser Ala Tyr Leu Leu Arg
65                  70                  75                  80
Gln Ile Asp Thr Asn Phe Ala Ser Ser Gln Glu Arg Thr Ile Ala Gln
                85                  90                  95
Tyr Ile Val Gly Asn Leu Ser Pro Glu Gly Leu Phe Leu Glu Asn Pro
            100                 105                 110
Ser Leu Val Ala Ala Asp Leu Asn Val Ser Glu His Leu Phe His Lys
        115                 120                 125
Val Trp Gln Arg Ile Gln Gln Leu His Pro Leu Gly Val Gly Ala Pro
    130                 135                 140
Ser Leu Gln Ser Tyr Trp Val Ser Leu Leu Gln Thr Ser Pro His Lys
145                 150                 155                 160
Glu Ala Leu Ala Ile Ile Arg Asn His Phe Pro Arg Leu Ala Arg Cys
                165                 170                 175
Asp Phe Thr Thr Ile Ala Arg Lys Met His Ala Thr Thr Thr Glu Ile
            180                 185                 190
Leu Thr Phe Leu Arg His Ala Phe Ala Ser Ile Pro Trp Cys Pro Ala
        195                 200                 205
Ala Gly Phe Ser Glu Thr Leu His Pro Pro Ala Pro Ala Leu Pro Asp
    210                 215                 220
Ala Tyr Leu Ser Phe Ser Arg Asn Ser Ser Trp Asp Val Ser Ile Asn
225                 230                 235                 240
Lys Asp Cys Leu Pro Ser Ile Arg Leu Asn Asp Thr Val Leu Asp Ile
                245                 250                 255
Tyr Pro Ser Leu Pro Arg Glu Glu Lys Asp His Leu Ser Gln Gln Ile
            260                 265                 270
Arg Ala Ala Lys Gln Leu Leu Arg Asn Val Lys Lys Arg Glu Glu Thr
        275                 280                 285
Leu Leu Ala Ile Leu Arg Val Leu Ile Pro Tyr Gln Glu Glu Phe Leu
    290                 295                 300
Leu Lys Lys Arg Thr Ser Pro Lys Ala Phe Ser Val Lys Gln Ile Ala
305                 310                 315                 320
Arg Glu Leu Ser Leu His Glu Ala Thr Val Cys Arg Ala Ile Asp Asn
                325                 330                 335
Lys Thr Leu Ala Thr Pro Val Gly Leu Leu Pro Met Arg Ser Leu Phe
            340                 345                 350
Pro Gln Ala Val Gly Ser Cys Pro Asp Gln Ser Lys Ala Thr Ile Leu
        355                 360                 365
His Trp Ile His Gln Trp Ile Ser Thr Glu Lys His Pro Leu Ser Asp
    370                 375                 380
Ala Ala Ile Ser Gln Lys Ile Ile Glu Lys Gly Ile Pro Cys Ala Arg
385                 390                 395                 400
Arg Thr Val Ala Lys Tyr Arg Ser Gln Leu Asn Ile Pro Pro Ala His
                405                 410                 415
Gln Arg Lys His Leu Cys Ser Val Leu Thr Thr Thr Arg Thr Glu Asn
            420                 425                 430
Ser Arg His Thr Ile
        435
<210>841
<211>512
<212>PRT
<213>Chlamydia trachomatis
<400>841
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09698-2 = 09/698,259

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Ala Xaa Leu Arg Lys Leu Asn Leu Asp Lys Lys Leu Cys Asn Ala Met
 1               5                  10                  15
Gln Phe Thr Ile Ser Gln Ala Lys Asn Arg Leu Gln Ser Pro Glu Asp
            20                  25                  30
Leu Asp Ser Lys Glu Tyr Pro Asp Pro Thr Arg Thr Val Tyr Ala Glu
        35                  40                  45
Tyr Gln Glu Gln Leu Arg Ala Ala Asn Ala Leu Asp Phe Asp Asp Leu
    50                  55                  60
Leu Phe Leu Thr Glu Lys Leu Leu Arg Ile Pro Glu Val Gln Gln Glu
65                  70                  75                  80
Tyr Ala Asn His Trp Lys Ala Leu Leu Ile Asp Glu Tyr Gln Asp Thr
                85                  90                  95
Asn His Ala Gln Tyr Leu Ile Ala Lys Arg Leu Ala Ala Ala His Asn
            100                 105                 110
Asn Ile Phe Val Val Gly Asp Pro Asp Gln Ser Ile Tyr Ser Trp Arg
        115                 120                 125
Gly Ala Asn Ile Ser Asn Ile Leu Asn Phe Glu Gln Asp Tyr Ser Gln
    130                 135                 140
Ala Leu Val Val Arg Leu Glu Glu Asn Tyr Arg Ser Cys Gly Thr Ile
145                 150                 155                 160
Leu Glu Ala Ala Asn Ala Leu Ile Gln Asn Asn Ser Ala Arg Leu Glu
                165                 170                 175
Lys Thr Leu Arg Ser Val Lys Gly Pro Gly Asp Lys Ile Phe Cys Phe
            180                 185                 190
Thr Gly Lys Asn Asp Arg Asp Glu Ala Glu Gln Val Leu Glu Glu Ile
        195                 200                 205
Ser Asn Leu His Ser Tyr Lys Asp Ile Pro Leu Ser Asp Ile Cys Ile
    210                 215                 220
Leu Tyr Arg Thr Asn Phe Gln Ser Gln Ser Phe Glu Ala Ala Leu Leu
225                 230                 235                 240
Lys Arg Gly Tyr Pro Tyr Glu Ile Ile Gly Gly Ile Ser Phe Tyr Lys
                245                 250                 255
Arg Arg Glu Ile Gln Asp Ile Leu Ala Phe Leu Arg Leu Phe Ser Asn
            260                 265                 270
Asn Tyr Asp Met Ala Ala Phe Glu Arg Thr Ile Ser Leu Lys Lys Cys
        275                 280                 285
Gly Ile Gly Ala Thr Thr Leu Ala Ala Leu Met Asn Tyr Ala Lys Ile
    290                 295                 300
Thr Asp Leu Pro Ile Leu Gln Ala Cys Trp Asp Val Leu Glu Lys Lys
305                 310                 315                 320
Ser Ile Arg Leu Thr Lys Lys Gln Gln Gln Gly Leu Phe Ser Tyr Leu
                325                 330                 335
Thr His Phe His Gln Met Glu Gln Leu Tyr Gly Asn Cys Asp Leu His
            340                 345                 350
Glu Phe Ile Asn Glu Thr Ile Arg Ile Thr Asp Tyr Leu Ser Ile Leu
        355                 360                 365
Lys Glu Asp Pro Glu Thr Tyr Glu Asp Arg Lys Asn Asn Leu Glu Gln
    370                 375                 380
Leu Leu Ala Glu Thr Gln Ile Trp Gly Lys Ser Ser Glu Asn Leu Pro
385                 390                 395                 400
Gly Phe Leu Glu Asp Leu Ala Leu Lys Ser Ser Ala Asp Glu Thr Ala
                405                 410                 415
Ser Ser His Asp Arg Leu Lys Leu Met Thr Ile His Asn Ser Lys Gly
            420                 425                 430
Leu Glu Phe Pro Val Val Phe Leu Val Gly Leu Glu Glu Asn Leu Leu
        435                 440                 445
Pro His Ala Asn Ser Lys Gly Met His Glu Asn Ile Glu Glu Glu Arg
    450                 455                 460
Arg Leu Cys Tyr Val Gly Ile Thr Arg Ala Gln Glu Tyr Leu Tyr Leu
465                 470                 475                 480
Ser Arg Ala Lys Thr Arg Phe Leu Trp Gly Thr Glu Arg Thr Met Val
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                485                 490                 495
Pro Ser Arg Phe Ile Ser Glu Leu Pro Arg Ala Leu Leu Lys Phe Val
            500                 505                 510

<210>842
<211>148
<212>PRT
<213>Chlamydia trachomatis
<400>842
Met His Arg Val Tyr Ala Phe Ser Lys Ile Phe Phe Glu Pro Glu Asn
  1               5                  10                  15
Ile Tyr Tyr Ile His Met Leu Thr Ser Glu Leu Asn Ala Ala Gln Val
            20                  25                  30
Thr Ala Val Thr Ala Pro Leu Gln Pro Val Leu Val Leu Ala Gly Ala
        35                  40                  45
Gly Ala Gly Lys Thr Arg Val Val Thr His Arg Ile Leu His Leu Ile
    50                  55                  60
Glu Glu Ser Arg Leu Asp Pro Lys Gln Ile Leu Ala Ile Thr Phe Thr
65                  70                  75                  80
Asn Lys Ala Ala Asn Glu Leu Lys Glu Arg Ile Gln Ser Gln Cys Arg
                85                  90                  95
Glu Leu Gly Tyr Ser Asp Val Pro Met Val Ser Thr Phe His Ser Leu
            100                 105                 110
Ser Val Tyr Ile Leu Arg Arg Ser Ile His Leu Leu Asp Arg Gln Ser
        115                 120                 125
Asn Phe Val Ile Tyr Asp Gln Ser Asp Ser Xaa Lys Leu Ile Lys Gln
    130                 135                 140
Xaa Tyr Ala Ser
145
<210>843
<211>229
<212>PRT
<213>Chlamydia trachomatis
<400>843
Met His Glu Ala Phe Thr Ile Glu Gln Leu Pro Pro Ser Trp Gln Glu
  1               5                  10                  15
Gln Leu Lys Asp Glu Trp Ser Gln Pro Tyr Trp Ser Gln Leu Leu Ala
            20                  25                  30
Phe Leu Lys Ser Glu Tyr Ala Gln Ala Lys Ile Tyr Pro Lys Lys Glu
        35                  40                  45
Asn Ile Phe Ala Ala Leu Arg Ser Thr Pro Phe Asp Gln Val Arg Val
    50                  55                  60
Val Ile Leu Gly Gln Asp Pro Tyr His Gly Glu Gly Gln Ala His Gly
65                  70                  75                  80
Leu Ser Phe Ser Val Pro Arg Gly Gln Ala Leu Pro Pro Ser Leu Arg
                85                  90                  95
Asn Ile Phe Gln Glu Leu His Thr Asp Leu Gly Ile Arg Asn Glu Ser
            100                 105                 110
Gly Cys Leu Gln Ala Trp Ala Asp Gln Gly Val Leu Leu Leu Asn Thr
        115                 120                 125
Val Leu Thr Val Arg Ala Gly Glu Ala Phe Ser His Ala Gly Arg Gly
    130                 135                 140
Trp Glu Arg Phe Thr Asp Ala Ile Val Thr Lys Leu Ile Gln Asn Arg
145                 150                 155                 160
Thr His Val Ile Phe Val Leu Trp Gly Asn Ala Ala Arg Gln Lys Cys
                165                 170                 175
Asn Leu Leu Phe Gln Thr Lys His Gln His Ala Val Leu Ala Cys Pro
            180                 185                 190
His Pro Ser Pro Leu Ala Ala His Arg Gly Phe Phe Gly Cys Cys His
        195                 200                 205
Phe Ser Lys Ile Asn Tyr Leu Leu Lys Lys Gln Gly Lys Thr Met Ile
    210                 215                 220
```

Asn Trp Lys Ile Glu
225
<210>844
<211>79
<212>PRT
<213>Chlamydia trachomatis
<400>844
Leu Glu Asp Arg Met Ile Asp Gly Ile Gln Thr Cys Ser Phe Ser Pro
1 5 10 15
Thr His Arg Leu Thr Ala Lys Ser Ala Val Ser Ile Glu Met Pro Leu
20 25 30
Ala Thr Gln Asn Leu Gln Glu Gly Ala Leu Val Asn Ala Lys Leu Glu
35 40 45
Ala Asp Phe Ala Arg Ala Glu Gln Ile Leu Thr Glu Met Gln Glu Ile
50 55 60
Arg Ser Ser Leu Glu Arg Ser Leu Glu Thr Leu Phe Pro Arg Glu
65 70 75
<210>845
<211>209
<212>PRT
<213>Chlamydia trachomatis
<400>845
Met Lys Ile Leu Ile Ala Ser Ser His Gly Tyr Lys Val Arg Glu Thr
1 5 10 15
Lys Ala Phe Leu Lys Lys Leu Gly Glu Phe Asp Ile Phe Ser Leu Val
20 25 30
Asp Tyr Pro Ser Tyr Gln Pro Pro Lys Glu Thr Gly Glu Thr Pro Glu
35 40 45
Glu Asn Ala Ile Gln Lys Gly Leu Phe Ala Ala Gln Thr Phe Arg Cys
50 55 60
Trp Thr Ile Ala Asp Asp Ser Met Leu Ile Ile Pro Ala Leu Gly Gly
65 70 75 80
Leu Pro Gly Lys Leu Ser Ala Ser Phe Ala Gly Glu Gln Ala Asn Asp
85 90 95
Lys Asp His Arg Lys Lys Leu Leu Glu Asn Met Arg Leu Leu Glu Asn
100 105 110
Thr Ile Asp Arg Ser Ala Tyr Phe Glu Cys Cys Val Ala Leu Ile Ser
115 120 125
Pro Phe Gly Lys Ile Phe Lys Ala His Ala Ser Cys Glu Gly Thr Ile
130 135 140
Ala Phe Glu Glu Arg Gly Ser Ser Gly Phe Gly Tyr Asp Pro Leu Phe
145 150 155 160
Val Lys His Asp Tyr Lys Gln Thr Tyr Ala Glu Leu Pro Glu Ala Ile
165 170 175
Lys Asn Gln Val Ser His Arg Ala Lys Ala Leu Val Lys Leu Gln Pro
180 185 190
Tyr Val Glu Thr Val Leu Ala Asn His Leu Leu Ala Gly Lys Glu Ser
195 200 205
Leu

<210>846
<211>423
<212>PRT
<213>Chlamydia trachomatis
<400>846
Arg Lys Ile Arg Phe Pro Leu Ser Lys Arg Asp Pro Lys Glu Ile Met
1 5 10 15
Lys Thr Ile Cys Lys Leu Val Ile Leu Ala Leu Leu Phe Pro Asn Val
20 25 30
Ser Tyr Ala Leu Val Gln Val Gly Leu Glu Arg Leu Phe Gln Glu Glu
35 40 45

Lys Tyr Leu Glu Lys Ile Arg Gly Lys Arg Val Ala Leu Ile Ser His
50 55 60
Ser Ala Ala Ile Asn Arg Gln Gly Glu His Ser Leu Cys Val Phe Asn
65 70 75 80
Lys His Lys Gly Val Cys Lys Leu Ser Ala Leu Cys Thr Leu Glu His
85 90 95
Gly Tyr Phe Gly Ala Ser Ile Ala Glu Thr Pro Gly Tyr Asp Pro Ile
100 105 110
Leu Glu Asp Ile Pro Val Ile Ser Leu Phe Ala Ser Lys Glu Ile Pro
115 120 125
Ala Glu Val Ile Glu Ala Cys Asp Val Phe Val Tyr Asp Val Gln Asp
130 135 140
Ile Gly Val Arg Ser Tyr Ser Phe Ile Ser Ala Leu Leu Gln Val Val
145 150 155 160
Lys Ala Ser Ala Ser Ser Lys Lys Glu Leu Ile Val Leu Asp Arg Pro
165 170 175
Asn Pro Met Gly Gly Asn Leu Val Asp Gly Pro Leu Pro Asp Lys Glu
180 185 190
Ala Phe Pro Ala Ile Pro Tyr Cys Tyr Gly Met Thr Pro Gly Glu Leu
195 200 205
Ala Leu Leu Tyr Arg Ala Arg Tyr Ala Pro Lys Ala Ser Val Thr Val
210 215 220
Val Pro Met Arg Gly Trp Lys Arg Ser Met Ile Phe Ala Asp Thr Gly
225 230 235 240
Leu Ile Trp Val Pro Thr Ser Pro Gln Ile Pro Asp Ala Gln Ser Ala
245 250 255
Tyr Phe Tyr Ala Thr Thr Gly Ile Ile Gly Ala Leu Ser Val Thr Asn
260 265 270
Ile Gly Ile Gly Tyr Thr Leu Pro Phe Lys Val Leu Gly Ala Pro Trp
275 280 285
Met Asp Gly Cys Lys Val Ala Gln Glu Leu Asn Lys Ala Arg Leu Pro
290 295 300
Gly Val His Phe Leu Pro Phe Met Tyr Glu Pro Phe Phe Gly Lys Phe
305 310 315 320
Lys Met Glu Met Cys Ser Gly Val Leu Val Val Leu Gln Asp Pro Lys
325 330 335
Gln Phe Leu Pro Met Glu Thr Gln Ser Val Ile Leu Gly Val Leu Lys
340 345 350
Thr Leu Tyr Pro Lys Glu Val Glu Gln Ala Phe Leu Leu Leu Asp Arg
355 360 365
Leu Val Pro Arg Arg Lys Ala Ile Gln Asn Leu Leu Gly His Ser Glu
370 375 380
Phe Leu Asn Val Cys Leu His Lys Lys Tyr Ile Thr Trp Pro Leu Arg
385 390 395 400
Thr Met Cys Ala Glu Gly Arg Lys Gln Phe Ile Glu Gln Arg Gln Pro
405 410 415
Phe Leu Leu Pro Glu Tyr Ala
420

<210>847
<211>533
<212>PRT
<213>Chlamydia trachomatis
<400>847
Gly Leu Ser Asn Ser Phe Arg Asp Gln Glu Gln Gly Leu Gln Ala Val
1 5 10 15
Leu Arg Ala Ala Arg Val Ile Ser His Met Phe Ser Gln Thr Ile Gly
20 25 30
Pro Tyr Gly Phe Ser Thr Ile Val His Asn Val Gln Asp Thr Arg Thr
35 40 45
Thr Gln Asp Ser Gln Ser Met Leu Lys Asp Ile Leu Phe Pro Asp Val
50 55 60

09504000 = 4000504

Phe Glu Asn Ile Gly Met Lys Leu Ile Arg Asp Thr Ala Leu Gly Thr
65 70 75 80
Arg Met Arg Phe Gly Asp Gly Ala Lys Thr Thr Ala Leu Leu Ile Glu
85 90 95
Ala Leu Leu Ala Glu Gly Met Thr Gly Ile Gln Lys Gly Leu Asp Pro
100 105 110
His Glu Ile His Arg Gly Met Leu Leu Ala Glu Lys Lys Ile Gln Glu
115 120 125
Val Phe Tyr Arg Glu Thr Phe Pro Leu Ser Asp Leu Glu His Thr Val
130 135 140
Tyr Val Ser Ser Ile Ala Arg Arg Phe Asn Ser Glu Ile Ala Ser Val
145 150 155 160
Leu Ser Ser Ala Val Gly Tyr Gly Gly Lys Asn Gly Tyr Tyr Ile Val
165 170 175
Glu Glu His Glu Glu Ser Glu Thr Tyr Trp His Ala Glu Glu His Ala
180 185 190
Val Trp Asp Phe Gly Tyr Ala Ser Pro Tyr Phe Ile Thr His Ala Glu
195 200 205
Thr Gly Thr Val Glu Tyr Ser Gln Val Tyr Ile Leu Val Ser Glu His
210 215 220
Pro Leu His Tyr Ser Asn Pro Ser Phe Leu Thr Phe Leu Gln Ser Val
225 230 235 240
Val Gln Ala Gly Lys Thr Pro Leu Val Ile Val Ala Glu Ala Phe Asp
245 250 255
Lys Glu Leu Leu Ala Met Leu Glu Met Asn Gln Ile Glu Arg Val Phe
260 265 270
Pro Val Cys Ala Val Lys Val Ser Gly Lys His Ala Arg Glu Ser Leu
275 280 285
Glu Asp Ile Ala Val Leu Thr Gly Ala Thr Leu Leu Pro Glu Met Asp
290 295 300
Phe Glu Asp Ser Glu Glu Glu Arg Ile Ala Asn Arg Leu Gly Phe Val
305 310 315 320
Ala Gly Ile Cys Val Ser Ser Thr Ser Leu Cys Val Pro Arg Glu Thr
325 330 335
Asp Asn Lys Gln Arg Val Ala Glu His Cys Ala Phe Leu Gln Asp Lys
340 345 350
Leu Ser Phe His Arg Lys Lys Ser Ser Ala Arg Leu Arg Arg Arg Leu
355 360 365
Ala Arg Leu Ser Thr Gly Glu Val Cys Ile His Ile Ala Ala Asp Cys
370 375 380
Ile Pro Gln Glu Glu Ile Gly Tyr Ile Thr Ser Ser Ile Arg Ala Met
385 390 395 400
Thr Glu Ser Leu Arg Ser Gly Cys Leu Pro Gly Gly Gly Cys Ala Phe
405 410 415
Ile Arg Ala Ala Arg Glu Ile Ser Val Pro Leu Ala Leu Ser Pro Ser
420 425 430
Glu Arg Phe Gly Phe Leu Ala Val Leu Ser Ala Ala Glu Lys Pro Phe
435 440 445
Arg Ala Ile Val Thr Arg Ser Gly Arg Val Glu Glu Glu Val Phe Ser
450 455 460
Glu Val Phe Ser Gln Ala Asp Trp Arg Val Gly Phe Asn Gly Val Ser
465 470 475 480
Gly Phe Val Glu Asp Ile Val Ser Gln Gly Ile Cys Asp Gly Ala Ser
485 490 495
Cys Ile Gln His Ala Leu Ser His Ala Val Gly Thr Thr Gly Leu Leu
500 505 510
Leu Thr Ser Ala Leu Phe Ile Ala Ser Gln Glu Pro Met Leu Arg Glu
515 520 525
Glu Asn Ser Glu Glu
530

<210>848

Sequence Listing

<211>210
<212>PRT
<213>Chlamydia trachomatis
<400>848
Val Gln Ile Leu Ser Gly Ala Leu Phe Leu Ser Arg Arg Ser Thr Met
1 5 10 15
Gly Ser Leu Val Gly Arg Gln Ala Pro Asp Phe Ser Gly Lys Ala Val
20 25 30
Val Cys Gly Glu Glu Lys Glu Ile Ser Leu Ala Asp Phe Arg Gly Lys
35 40 45
Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val Cys Pro
50 55 60
Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu Glu His
65 70 75 80
Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr His Ser
85 90 95
Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly Thr Glu
100 105 110
Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe Gly
115 120 125
Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu Ile
130 135 140
Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro Leu
145 150 155 160
Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu Ile Phe
165 170 175
Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser Gly Glu
180 185 190
Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe Gln Thr
195 200 205
Met Asp
210
<210>849
<211>134
<212>PRT
<213>Chlamydia trachomatis
<400>849
Leu Ala Cys Gly Met Lys Phe Thr Val Ala Val Phe Gly Glu Ala Glu
1 5 10 15
Glu Gly Ser Phe Glu Ser Ala Tyr Leu Cys Ser Ser Leu Thr Asp Leu
20 25 30
His Asn Asn Leu Gly His Gly Arg Asp Ser Pro Ser Gly Ile Ser Leu
35 40 45
Ala Val Gln Ala Ile Met Gln Gly Tyr Asp Ile Leu Phe Phe Arg Val
50 55 60
Lys Glu Glu Gly Phe Phe Ile Asp Ser Tyr Phe Phe Gly Leu His Phe
65 70 75 80
Leu Asn Thr Gln Thr Ser Leu Thr Asn Ile Val Ala Leu Ala Leu Pro
85 90 95
Gly Val Gly Asp Phe Asn Ile Ile Glu Ala Ser Leu Ala Leu Cys Arg
100 105 110
Lys Leu Lys Ser Leu Leu Leu Phe Ser Asp Gln Asp Leu Tyr Asp Phe
115 120 125
Leu Thr Phe Lys Asp Ala
130
<210>850
<211>177
<212>PRT
<213>Chlamydia trachomatis
<400>850
Ser Ala Val Phe Ala Gly Tyr Ser Ser Arg Ser Arg Arg Thr Ser Ser

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  1               5                  10                  15
Arg Leu His Ala His His Asn Glu Leu Ala Met Ile Ser Glu Arg Leu
            20                  25                  30
Asp Glu Gln Asp Thr Lys Leu Gln Gln Leu Ser Ser Thr Gln Asp His
        35                  40                  45
Asn Leu Pro Arg Gln Val Gln Arg Leu Glu Thr Asp Gln Lys Ala Leu
    50                  55                  60
Ala Lys Thr Leu Ala Ile Leu Ser Gln Ser Val Gln Asp Ile Arg Ser
65                  70                  75                  80
Ser Val Gln Asn Lys Leu Gln Glu Ile Gln Gln Glu Gln Lys Lys Leu
                85                  90                  95
Ala Gln Asn Leu Arg Ala Leu Arg Asn Ser Leu Gln Ala Leu Val Asp
            100                 105                 110
Gly Ser Ser Pro Glu Asn Tyr Ile Asp Phe Leu Ala Gly Glu Thr Pro
        115                 120                 125
Glu His Ile His Ile Val Lys Gln Gly Glu Thr Leu Ser Lys Ile Ala
    130                 135                 140
Ser Lys Tyr Asn Ile Pro Val Val Glu Leu Lys Lys Leu Asn Lys Leu
145                 150                 155                 160
Asn Ser Asp Thr Ile Phe Thr Asp Gln Arg Ile Arg Leu Pro Lys Lys
                165                 170                 175
Lys
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<210>851
<211>214
<212>PRT
<213>Chlamydia trachomatis
<400>851

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Glu Asn Cys Tyr Arg Ile Trp Arg Glu Thr Phe Pro Met Leu Gly Ser
  1               5                  10                  15
Ile Ser Phe Thr Thr Tyr Lys Glu Asn Leu Met Arg Lys Thr Ile Phe
            20                  25                  30
Lys Ala Phe Asn Leu Leu Phe Ser Leu Leu Phe Leu Ser Ser Cys Ser
        35                  40                  45
Tyr Pro Cys Arg Asp Trp Glu Cys His Gly Cys Asp Ser Ala Arg Pro
    50                  55                  60
Arg Lys Ser Ser Phe Gly Phe Val Pro Phe Tyr Ser Asp Glu Glu Ile
65                  70                  75                  80
Gln Gln Ala Phe Val Glu Asp Phe Asp Ser Lys Glu Glu Gln Leu Tyr
                85                  90                  95
Lys Thr Ser Ala Gln Ser Thr Ser Phe Arg Asn Ile Thr Phe Ala Thr
            100                 105                 110
Asp Ser Tyr Ser Ile Lys Gly Glu Asp Asn Leu Thr Ile Leu Ala Ser
        115                 120                 125
Leu Val Arg His Leu His Lys Ser Pro Lys Ala Thr Leu Tyr Ile Glu
    130                 135                 140
Gly His Thr Asp Glu Arg Gly Ala Ala Ala Tyr Asn Leu Ala Leu Gly
145                 150                 155                 160
Ala Arg Arg Ala Asn Ala Val Lys Gln Tyr Leu Ile Lys Gln Gly Ile
                165                 170                 175
Ala Ala Asp Arg Leu Phe Thr Ile Ser Tyr Gly Lys Glu His Pro Val
            180                 185                 190
His Pro Gly His Asn Glu Leu Ala Trp Gln Gln Asn Arg Arg Thr Glu
        195                 200                 205
Phe Lys Ile His Ala Arg
    210
```

<210>852
<211>145
<212>PRT
<213>Chlamydia trachomatis
<400>852

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Pro Asp Gly Thr Arg Leu Val Phe Val Ser Asn Lys Asp Gly Thr Pro
  1               5                  10                  15
Arg Ile Tyr Gln Met Gln Ile Ser Pro Glu Gln His Ser Pro Arg Leu
            20                  25                  30
Leu Thr Lys Lys Tyr Arg Asn Ser Ser Cys Pro Thr Trp Ser Pro Asp
        35                  40                  45
Gly Lys Lys Ile Ala Phe Cys Ser Val Ile Lys Gly Val Arg Gln Ile
    50                  55                  60
Cys Val Tyr Asp Leu Ala Ser Gly Arg Asp Glu Gln Leu Thr Thr Ser
65                  70                  75                  80
Thr Glu His Lys Glu Ser Pro Ser Trp Ala Ala Asp Ser Asn His Leu
                85                  90                  95
Val Tyr Ser Ala Gly Ser Ser Asn Thr Ser Glu Leu Phe Leu Leu Ser
            100                 105                 110
Leu Ile Thr Lys Lys Ser Arg Lys Ile Val Ile Gly Ser Gly Glu Lys
        115                 120                 125
Arg Phe Pro Cys Trp Gly Ala Phe Pro Ser Gln His Ile Lys Lys Thr
    130                 135                 140
Ser
145
<210>853
<211>267
<212>PRT
<213>Chlamydia trachomatis
<400>853
Thr Ala Gly Lys Phe Cys Leu Met Lys Gly Ser Val Val Phe Leu Arg
  1               5                  10                  15
Ser Leu Leu Cys Leu Leu Cys Leu Leu Pro Ser Thr Leu His Cys Glu
            20                  25                  30
Asp Leu Glu Ile His Val Arg Ser Glu Ser Ser Leu Leu Pro Ile Ala
        35                  40                  45
Val Ser Leu Leu Ser Ser Pro Lys Asp Ser Arg Gln Ala Ser Tyr Leu
    50                  55                  60
Ala Ser Leu Arg Asp Leu Phe Ala Arg Asp Leu Ala Leu Gly Asp Leu
65                  70                  75                  80
Leu Ala Pro Thr Lys Glu Leu Ala Pro Gln Thr Ile Phe Ile Glu Ala
                85                  90                  95
Ser Tyr Pro Glu Leu Ile Phe Ser Leu Lys Lys Glu Gly Lys Gly Ser
            100                 105                 110
Gln Lys Ile Phe Ser Leu Glu Leu Ser Gly Asp Pro Ser Lys Asp His
        115                 120                 125
Gln Ala Ile His Glu Ala Ala Asp Arg Ile His Phe Leu Leu Thr Arg
    130                 135                 140
Val Pro Gly Ile Ser Ser Gly Lys Ile Ile Phe Ser Leu Cys Ala Thr
145                 150                 155                 160
Asn Ser Ser Thr Glu Leu Lys Gln Gly Glu Leu Trp Ser Val Asp Tyr
                165                 170                 175
Asp Gly Gln His Leu Tyr Pro Leu Thr Asn Glu His Ser Leu Ser Val
            180                 185                 190
Thr Pro Thr Trp Met His Ile Ser His Ile Pro Ala Tyr Met Tyr Val
        195                 200                 205
Ser Tyr Lys Leu Gly Val Pro Lys Ile Phe Leu Asn Thr Leu Asn Gln
    210                 215                 220
Pro Ala Gly Lys Lys Ser Leu Leu Cys Lys Gly Ile Ser Leu Cys Arg
225                 230                 235                 240
Leu Ser Leu Leu Lys Leu Asn Ser Ser Pro Leu Phe Leu Ile Glu Thr
                245                 250                 255
Ala Ile Leu Ile Phe Leu Tyr Asn His Ser His
            260                 265
<210>854
<211>264
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<212>PRT
<213>Chlamydia trachomatis
<400>854
Tyr Ser Phe Gln Thr Val Ser Arg Asp Gln Ile Asp Tyr Arg Arg Ser
1 5 10 15
Arg Ile Ser Gly Thr Ser Tyr Cys Phe Glu Glu Leu Thr Met Pro Lys
20 25 30
Phe Gln Tyr Ala Pro Phe Leu Cys Ala Ser Ile Ile Ile His Ile Ala
35 40 45
Leu Gly Gly Met Leu Phe Phe Ser Ala Pro Gln Lys Lys Lys Pro Arg
50 55 60
Leu Ser Pro Phe Lys Glu Arg Ile Val Ala Leu Pro Pro Glu Pro Lys
65 70 75 80
Ile Thr Thr Thr Leu Gln Thr Pro Ser Pro Gln Pro Ile Arg Lys Pro
85 90 95
Val Lys Asn Ala Pro Ala Pro Glu Lys Lys Ala Ala Lys Pro Pro Ala
100 105 110
Ile Ser Asn Pro Gln Lys Ser Pro Gln Lys Pro Asn Lys Ala Ser Pro
115 120 125
Thr Pro Arg Asn Glu Thr Leu Glu Lys Lys Gln Ala Thr Leu Lys Lys
130 135 140
Leu Ala Gln Leu Ala Asn Gln Leu Ala Glu Glu Ala Glu Thr Gln Glu
145 150 155 160
Ser His Ile Ala Gln Phe Ser Trp Pro Ala Gln Ala Gln Val Leu Thr
165 170 175
Glu Asn Thr Ser Tyr Gln Gln Asp Ala Phe Cys Ala Leu Phe Gln Gln
180 185 190
Tyr Val Ser Leu Pro Phe Pro Gly Glu Val Arg Leu Lys Leu Glu Phe
195 200 205
Ser Arg Glu Gly Ala Leu Leu His Cys Ser Ile Leu Ser Thr Ile Ser
210 215 220
His Ala Asp Lys Gln His Ile Leu Asn Gln Ile Gln Lys Ile Pro Phe
225 230 235 240
Gln Ser Phe Phe Ser Ala Tyr Lys Thr Ser Lys Asn Ile Val Phe His
245 250 255
Ile Arg Leu Gln Gly Asn Ser Ala
260
<210>855
<211>136
<212>PRT
<213>Chlamydia trachomatis
<400>855
Leu Met Lys Arg Phe Val Tyr Glu Asp Leu Glu Glu Asp Pro Ser Val
1 5 10 15
Asn Leu Thr Pro Leu Ile Asp Ile Val Phe Val Ile Leu Met Ala Phe
20 25 30
Met Ile Ala Met Pro Leu Ile Lys Ile Asp Arg Ile Ser Leu Ala Thr
35 40 45
Gly Ser Ser Ser His Gln Ala Phe Lys Lys Gln Glu Ser Gln Gln Ala
50 55 60
Glu Ile Lys Val Phe Arg Asn His Thr Ile Thr Leu Asn Asp Leu Pro
65 70 75 80
Val Ser Leu Gln Glu Leu Arg Ser Gln Leu Thr Val Ile His Ala Gln
85 90 95
His Pro Asn Ile Val Pro Leu Leu Leu Gln Asp Gly Asp Thr Ala Phe
100 105 110
Lys Leu Tyr Gln Glu Ile Lys Ser Thr Ile Glu Glu Ala Gly Phe Gln
115 120 125
Glu Leu His Ile Ala Leu Lys Asn
130 135
<210>856

<211>236
<212>PRT
<213>Chlamydia trachomatis
<400>856

```
Val Tyr Val Leu Met Phe Gln Leu Val Asn Asn Pro Ile Ile Gln Ser
  1               5                  10                  15
Phe Gln Glu Ala Asp Leu Phe Gly Lys Val Ile Phe Phe Ser Leu Phe
            20                  25                  30
Ala Leu Ser Ile Cys Thr Trp Thr Val Leu His Gln Lys Leu Ser Ile
        35                  40                  45
Gln Lys Lys Phe Leu Lys Ser Gly Lys Ser Leu Lys Glu Phe Leu Ile
    50                  55                  60
Lys Asn Arg His Ser Pro Leu Ser Leu Asp Ile His Pro Glu Ser Thr
65                  70                  75                  80
Pro Phe Thr Asp Leu Tyr Phe Thr Ile Lys Arg Gly Thr Leu Glu Leu
                85                  90                  95
Leu Asp Lys Asn Arg Gln Leu Ala Pro Glu Arg Thr Pro Leu Leu Ser
            100                 105                 110
Val Glu Asp Ile Gln Ser Leu Glu Thr Leu Phe Asn Ala Val Met Pro
        115                 120                 125
Lys Tyr Arg Ala Leu Leu Asn Lys Asn Asn Phe Ile Pro Ala Thr Thr
    130                 135                 140
Ile Ser Leu Ala Pro Phe Leu Gly Leu Leu Gly Thr Val Trp Gly Ile
145                 150                 155                 160
Leu Leu Ala Phe Ala His Ile Ser Thr Gly Gln Ala Asn Gly Thr Ile
                165                 170                 175
Met Met Glu Gly Leu Ala Thr Ala Leu Gly Thr Thr Ile Val Gly Leu
            180                 185                 190
Phe Val Ala Ile Pro Ser Leu Val Gly Phe Asn Tyr Leu Arg Ala His
        195                 200                 205
Ala Phe Gln Val Ser Leu Glu Ile Glu Gln Thr Ala Phe Leu Leu Leu
    210                 215                 220
Asn Ser Ile Glu Val Lys Tyr Arg Gln Thr Ser Leu
225                 230                 235
```

<210>857
<211>221
<212>PRT
<213>Chlamydia trachomatis
<400>857

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Thr Gly Glu Ser Val Val Phe Met Ile Arg Gln Trp Tyr Gly Phe Phe
  1               5                  10                  15
Leu Cys Leu Leu Phe Ser Tyr Thr Ser Cys Phe Gly Val Glu Glu Asn
            20                  25                  30
Ser Gly Arg Ala Thr Pro Thr Val Glu Leu Val Ser Glu Ser Glu Gln
        35                  40                  45
Ala Val Glu Gly Glu Val Leu Arg Ile Gly Val Leu Ile Ala Ile Pro
    50                  55                  60
Glu Gly Glu His Ile Tyr Trp Lys Asn Pro Gly Lys Leu Gly Met Pro
65                  70                  75                  80
Leu Arg Ile Ser Trp Asp Leu Pro Ser Gly Cys Arg Leu Leu Glu Glu
                85                  90                  95
His Trp Pro Thr Pro Glu Ile Phe Glu Glu Asp Gly Val Val Tyr Phe
            100                 105                 110
Gly Tyr Lys His Ser Thr Met Val Val Ala Asp Ile Arg Val Ser Lys
        115                 120                 125
Glu Ile Glu Thr Arg Pro Leu Glu Ile Lys Ala Gln Val Glu Trp Leu
    130                 135                 140
Ser Cys Gly Ala Ser Cys Leu Pro Gly Ser Ser Ser Arg Val Leu Val
145                 150                 155                 160
Ile Pro Ile Asp Gln Gly Pro Leu Ile Pro Asn Ser Lys Glu Thr Phe
                165                 170                 175
```

```
Thr Phe Ser Arg Ala Leu Ala Ala Gln Pro Arg Pro Leu Asp Ala Ala
            180                 185                 190
Ile Lys Ile Ser Tyr Gln Pro Asp Gly Leu Asp Val Leu Val Pro Ala
        195                 200                 205
Gly Glu Ser Gly Ser Gly Asn Pro Gly Met Val His Cys
    210                 215                 220
<210>858
<211>497
<212>PRT
<213>Chlamydia trachomatis
<400>858
Met Phe Leu Cys Gln Gln Gly Lys Ala Asp Arg Ala Thr Gln Ala Trp
  1               5                  10                  15
Phe Ile Ala Glu Asn Thr Arg Asp Phe Ala Tyr Ala Gln Glu Val Pro
            20                  25                  30
Leu Glu Gln Ala Thr Thr Tyr Ile Trp Lys Leu Lys His Pro Glu Gly
        35                  40                  45
Asn Met Pro Lys Gly Val Gly Leu Ser Arg Ile Leu Ile Phe Lys Asp
    50                  55                  60
Asp Ala Gly Lys Val Val Ala Ser Tyr Gln Val Glu Xaa Asn Gln Val
 65                  70                  75                  80
Glu Gln Leu Ser Ala Leu Ser Trp Gly Phe Leu Ser Ile Leu Leu Met
                85                  90                  95
Ala Phe Ile Gly Gly Ile Leu Leu Asn Ile Met Pro Cys Val Leu Pro
            100                 105                 110
Leu Ile Thr Leu Lys Val Phe Ser Leu Ile Lys Ser Ala Ala Asp His
        115                 120                 125
His Ser Ser Ser Val Ile Gly Gly Ile Trp Phe Thr Leu Gly Ala Ile
    130                 135                 140
Val Ser Phe Trp Gly Leu Ala Phe Cys Ala Phe Leu Leu Lys Val Leu
145                 150                 155                 160
Gly Gln Asn Ile Gly Trp Gly Phe Gln Leu Gln Glu Pro Met Phe Val
                165                 170                 175
Ala Val Leu Ile Ile Val Phe Phe Leu Phe Ala Leu Ser Ser Leu Gly
            180                 185                 190
Val Phe Glu Met Gly Met Ile Cys Leu Ser Leu Gly Glu Lys Leu Gln
        195                 200                 205
Glu Glu Gly Gly Ala Ser Val Arg Lys Asn Gln Ile Trp Gly Ala Phe
    210                 215                 220
Phe Asn Gly Met Leu Thr Thr Leu Val Thr Thr Pro Cys Thr Gly Pro
225                 230                 235                 240
Phe Leu Gly Ser Val Phe Gly Leu Val Met Ala Val Ser Phe Val Lys
                245                 250                 255
Gln Leu Ala Ile Phe Thr Ala Ile Gly Leu Gly Met Ala Ser Pro Tyr
            260                 265                 270
Leu Leu Phe Ala Ser Phe Pro Lys Met Leu Ala Ile Leu Pro Lys Pro
        275                 280                 285
Gly Pro Trp Met Ser Thr Phe Lys Gln Leu Thr Gly Phe Met Leu Leu
    290                 295                 300
Ala Thr Ala Thr Trp Leu Ile Trp Ile Phe Gly Val Glu Thr Ser Ala
305                 310                 315                 320
Thr Ala Val Thr Ile Leu Leu Val Gly Leu Trp Leu Ala Ala Val Gly
                325                 330                 335
Ala Trp Ile Leu Gly Arg Trp Gly Thr Leu Val Ser Pro Arg Asn Gln
            340                 345                 350
Arg Leu Leu Ala Ser Val Val Phe Ile Phe Cys Ile Leu Ser Ser Leu
        355                 360                 365
Val Ile Thr Ser Ile Gly Val Arg Tyr Phe Asp Glu Asn Val Pro Pro
    370                 375                 380
Ala His Ser Phe Asp Trp Gln Ser Phe Ser Pro Glu Lys Leu Ala Asp
385                 390                 395                 400
```

```
Leu Arg Glu Lys Gly Ile Pro Val Phe Val Asn Phe Thr Ala Lys Trp
                405                 410                 415
Cys Leu Thr Cys Gln Leu Asn Lys Pro Leu Leu His Ala Asn Met Gln
            420                 425                 430
Ala Phe Ala Ala Lys Gly Val Val Thr Leu Glu Ala Asp Trp Thr Lys
        435                 440                 445
Lys Asp Pro Lys Ile Thr Glu Glu Leu Ala Arg Leu Gly Arg Ala Ser
    450                 455                 460
Val Pro Ser Tyr Val Tyr Tyr Pro Ala Gly Asn Lys Ala Pro Leu Ile
465                 470                 475                 480
Leu Pro Glu Arg Leu Ser Gln Ser Ala Leu Glu Glu Met Val Phe Ser
                485                 490                 495
Gln
```

<210>859
<211>272
<212>PRT
<213>Chlamydia trachomatis
<400>859

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Leu Arg Lys Ile Asp Tyr Glu Gly Ser Met Glu Ile Val Asp Ala His
  1               5                  10                  15
Val His Leu Ser Ser Glu Glu Phe Ile Glu Asp Phe Gly Asp Val Val
            20                  25                  30
Leu Arg Gly Lys Thr Ala Gly Val Thr Arg Val Val Asn Val Thr Thr
        35                  40                  45
Thr Lys Ala Glu Leu Leu Arg Ser Phe Ala Tyr Ala Glu Ala Tyr Pro
    50                  55                  60
Asp Trp Met Phe Tyr His Val Ala Gly Thr Pro Pro Gln Asp Ala Gln
65                  70                  75                  80
Asp Asp Ile Glu Glu Asp Phe Gln Glu Phe Cys Arg Ala Ala Glu Asp
                85                  90                  95
Gly Lys Leu Ala Ala Ile Gly Glu Val Gly Leu Asp Tyr Leu Phe Ala
            100                 105                 110
Val Gln Ala Ser Glu Gln Glu Arg Gln Lys Glu Val Leu Cys Arg Tyr
        115                 120                 125
Leu Gln Leu Ala Leu Gln His Glu Leu Pro Leu Val Val His Cys Arg
    130                 135                 140
Gly Ala Phe Glu Asp Phe Phe His Ile Leu Asp His Val Tyr Arg Val
145                 150                 155                 160
Asp Gln Arg Ala Lys Pro Gly Met Leu His Cys Phe Thr Gly Thr Tyr
                165                 170                 175
Glu Glu Ala Thr Glu Leu Leu Ala Arg Asp Trp Tyr Ile Ser Ile Ser
            180                 185                 190
Gly Ile Val Thr Phe Lys Asn Ala Lys Ser Leu Gln Asp Leu Val Glu
        195                 200                 205
Lys Ile Pro Leu Glu Arg Leu Leu Val Glu Thr Asp Ala Pro Tyr Leu
    210                 215                 220
Ala Pro Thr Pro Leu Arg Gly Lys Arg Asn Glu Pro Ala Asn Ile Val
225                 230                 235                 240
His Thr Leu Ala Arg Ile Ala Glu Ile Lys Gly Ile Ser Val Tyr Glu
                245                 250                 255
Leu Gln Asp Ala Val Ser Thr Asn Val Gln Arg Trp Leu Arg Gly Ser
            260                 265                 270
```

<210>860
<211>214
<212>PRT
<213>Chlamydia trachomatis
<400>860

```
Leu Phe Arg Leu Val Phe Ile Pro Ser Ser Asp Leu Ala Ile Phe Phe
  1               5                  10                  15
Glu Gly Glu Arg Ile Phe Ser Leu Gln Met Glu Glu His Leu Arg Tyr
```

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```
            20                  25                  30
Gly Arg Asn Leu Ala Tyr Thr Leu Gln Arg Met Thr Ala Trp Ile Leu
        35                  40                  45
Leu Ala Gly Leu Ala Phe His Val Ile Gln Phe Arg Phe Val Leu Tyr
    50                  55                  60
Pro Ile Gln Val Thr Ile Gln Gly Lys Thr Phe Tyr Ala Val Ser Phe
65                  70                  75                  80
Asp Ala Ala Arg Tyr Pro Ser Val Val Gln Gly Thr Thr Gly Phe Phe
                85                  90                  95
Ile Met Asn Val Pro Phe Ala Glu Gly Gly Pro Gln Ile Thr Glu Gln
            100                 105                 110
Phe Leu Gln Glu Lys Asp Arg Ala Leu Phe Ala Ser His Lys Ser Tyr
        115                 120                 125
Ile Phe Thr Pro Glu Ala Arg Lys Ala Phe Leu Tyr Ala Val Arg Asn
    130                 135                 140
Ala Leu Gly Ser Leu Trp Met Ala Ile Phe Tyr Thr Leu Phe Val Ile
145                 150                 155                 160
Ala Ala Val Phe His Gly Phe Asn Gly Val Trp Thr Phe Val Ser Arg
                165                 170                 175
Trp Gly Ile Ile Ile Ser Ser Arg Tyr Leu Arg Leu Cys Gln Ile Leu
            180                 185                 190
Cys Tyr Val Gly Met Cys Val Val Met Ala Met Gly Ile Ser Val Ile
        195                 200                 205
Trp Asn Met Tyr Leu Leu
    210
<210>861
<211>423
<212>PRT
<213>Chlamydia trachomatis
<400>861
Trp Ser Met Asp Val Cys Leu Ala Met Gly Asn His Tyr Leu Phe Pro
  1                 5                  10                  15
Leu Ser Pro Ile Met Ser Asp Leu Met Leu Arg Arg Asp Val Cys Cys
            20                  25                  30
Asp Gly Tyr Gly Tyr Gln Arg Asn Leu Glu Tyr Val Phe Val Met Met
        35                  40                  45
Asn Gln Arg Cys Arg Val Ile Ile Ile Gly Gly Gly Leu Ala Gly Leu
    50                  55                  60
Ser Ala Ala Met Gln Leu Ala Asp Arg Gly Ile Leu Val Glu Leu Phe
65                  70                  75                  80
Ser Leu Thr Lys Val Lys Arg Ser His Ser Val Cys Ala Gln Gly Gly
                85                  90                  95
Ile Asn Ala Ala Leu Asn Leu Lys Gly Glu Asn Asp Ser Pro Tyr Ile
            100                 105                 110
His Ala Tyr Asp Thr Ile Lys Gly Gly Asp Phe Leu Ala Asp Gln Pro
        115                 120                 125
Pro Val Leu Glu Met Cys Leu Thr Ala Ser Arg Ile Ile His Met Leu
    130                 135                 140
Asp Arg Phe Gly Cys Pro Phe Asn Arg Asp Ala Asp Gly Asn Leu Asp
145                 150                 155                 160
Val Arg Arg Phe Gly Gly Thr Leu Tyr His Arg Thr Val Phe Cys Gly
                165                 170                 175
Ala Ser Thr Gly Gln Gln Leu Met Tyr Thr Met Asp Glu Gln Val Arg
            180                 185                 190
Arg Arg Glu Trp Gln Gly Lys Ile Ile Lys Arg Glu Asn His Glu Phe
        195                 200                 205
Val Arg Leu Ile Thr Asn Thr Glu Gly Arg Ala Cys Gly Val Val Val
    210                 215                 220
Met Asn Leu Phe Asn His Arg Leu Glu Val Ile Gln Gly Asp Ala Val
225                 230                 235                 240
Ile Ile Ala Thr Gly Gly Leu Gly Val Ile Phe Gln Met Ser Thr Asn
```

```
                245                 250                 255
Ser Thr Ile Cys Thr Gly Ala Ala Asn Gly Arg Leu Phe Met Gln Gly
            260                 265                 270
Met His Tyr Ala Asn Pro Glu Phe Ile Gln Ile His Pro Thr Ala Ile
        275                 280                 285
Pro Gly Leu Asp Lys Leu Arg Leu Ile Ser Glu Ser Val Arg Gly Glu      290
295                 300
Gly Gly Arg Val Trp Val Pro Arg Cys Ser Ser Lys Thr Ile Ile Phe
305                 310                 315                 320
Pro Asp Gly Ser Arg Arg Pro Cys Gly Glu Thr Gly Lys Pro Trp Tyr
                325                 330                 335
Phe Leu Glu Glu Met Tyr Pro Ala Tyr Gly Asn Leu Val Ser Arg Asp
            340                 345                 350
Val Gly Ala Arg Ala Ile Leu Gln Val Cys Glu Ala Gly Leu Gly Ile
        355                 360                 365
Asp Gly Arg His Glu Val Phe Leu Asp Val Thr His Leu Pro Val Glu
    370                 375                 380
Thr Leu Asn Lys Leu Glu Ala Val Leu Asp Ile Tyr His Lys Phe Thr
385                 390                 395                 400
Gly Glu Asp Pro Lys Lys Val Pro Met Arg Ile Phe Leu Arg Cys Thr
                405                 410                 415
Ile Leu Trp Glu Ala Pro Gly
            420
<210>862
<211>267
<212>PRT
<213>Chlamydia trachomatis
<400>862
Lys Ser Pro Tyr Ala His Phe Ser Ala Val His Tyr Ser Met Gly Gly
  1                 5                  10                  15
Ala Trp Val Asp Trp Pro Ala Ser Asp Asp Arg Asp Arg Asp Ser Arg
             20                  25                  30
Tyr Arg His Met Thr Asn Ile Pro Gly Cys Phe Asn Cys Gly Glu Ser
         35                  40                  45
Asp Phe Gln Tyr His Gly Ala Asn Arg Leu Gly Ala Asn Ser Leu Leu
     50                  55                  60
Ala Cys Leu Tyr Ala Gly Leu Val Ala Gly Asp Glu Ala Ala Arg Phe
 65                  70                  75                  80
Val Glu Ser Phe Gly Ser Cys Ile Tyr Ser Gln Gln Asp Leu Asn Gln
                 85                  90                  95
Ala Leu Gln Gln Glu Gln Glu Ile Ser Arg Glu Ile Leu Ser Arg Gln
            100                 105                 110
Gly Gly Glu Asn Ala Phe Ala Leu His Glu Glu Ile Ala Arg Val Met
        115                 120                 125
Val Ser Asn Val Thr Val Lys Arg Glu Asn Lys Ala Leu Glu Glu Thr
    130                 135                 140
Leu His Lys Leu Lys Glu Phe Arg Glu Arg Ile Lys Lys Val Ser Val
145                 150                 155                 160
His Asp Ser Ser Arg Phe Ala Asn Lys Thr Phe His Phe Val Arg Gln
                165                 170                 175
Met Glu Pro Met Leu Glu Leu Ala Leu Ala Ile Thr Thr Gly Ala Leu
            180                 185                 190
Leu Arg Asn Glu Phe Arg Gly Ser His Tyr Lys Pro Glu Phe Ser Lys
        195                 200                 205
Arg Asp Asp Val Asn Trp Leu Lys Thr Thr Ile Ala Thr Tyr Ser Val
    210                 215                 220
Asp Glu Pro Glu Ile Ser Tyr Lys Lys Val Asp Thr Arg His Val Asn
225                 230                 235                 240
Pro Glu Leu Arg Asp Tyr Thr Arg Gln Gly Ala Lys Asp Val Val Leu
                245                 250                 255
Glu Asn Ile Pro Ala Asn Ile His Phe Pro Ile
```

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260 265

<210>863
<211>182
<212>PRT
<213>Chlamydia trachomatis
<400>863
Tyr Trp Glu Ser Phe Glu Leu Glu Leu His Pro Gly Glu Asn Val Ile
1 5 10 15
Ser Ala Leu Met Glu Ile Glu Lys Asn Pro Val Asn Ile His Gly Glu
20 25 30
Arg Val Asp Pro Val Val Trp Glu Gln Ala Cys Leu Glu Glu Val Cys
35 40 45
Gly Ser Cys Ala Val Leu Val Asn Gly Ile Pro Arg Gln Ala Cys Thr
50 55 60
Ala Leu Ile His Glu His Met Asp Ala Lys Arg Glu Ile Lys Leu Ala
65 70 75 80
Pro Leu Ser Lys Phe Pro Leu Val Arg Asp Leu Ile Val Asp Arg Ser
85 90 95
Val Met Phe Lys Asn Leu Glu Glu Ile Gln Gly Trp Ile Ser Ala Glu
100 105 110
Lys Cys Gly Glu Gly Ala Gly Pro Lys Ile Ser Gln Glu Glu Gln Thr
115 120 125
Leu Met Tyr Ser Leu Ser Met Cys Met Thr Cys Gly Cys Cys Thr Glu
130 135 140
Ala Cys Pro Gln Val Asn Glu Lys Ser Asp Phe Met Gly Pro Ala Ala
145 150 155 160
Ile Gly Lys Arg Val Ile Leu Thr Leu Ile Leu Glu Arg Asn Val Glu
165 170 175
Arg Val Gly Tyr Glu His
180

<210>864
<211>155
<212>PRT
<213>Chlamydia trachomatis
<400>864
Leu Ala Asn Phe Leu Ala Ile Ala Arg Phe Phe Phe Ala Lys Ala Thr
1 5 10 15
Leu Leu Tyr Val Val Lys Ser Cys Arg Phe Ser Pro His Lys Thr Ser
20 25 30
Ser Ser Lys Glu Ala Phe Ser Leu Leu Ala Lys Glu Ser Asn Thr Glu
35 40 45
Thr Ser Lys Arg Asp Met Thr Lys Lys Gly Val Phe Ser Leu Pro Leu
50 55 60
Pro Trp Asn Lys Ile Ala Met Gln Ser Ser Lys Leu Lys Ser Pro His
65 70 75 80
Leu Gln Lys Thr Leu Cys Tyr Ser Ser Val Phe Phe Leu Asn Asn Glu
85 90 95
Glu Asn Asn Ala Arg Lys Glu Lys Arg Glu Thr Ser His Pro Ile Ala
100 105 110
Glu Met Leu Ser Val Lys Gly Asn Phe Leu Gly His Thr Arg Thr Gln
115 120 125
Leu Trp Ala Cys Pro Asp Pro Ser Ile Pro Arg Val Pro Ile Asn Ala
130 135 140
Arg Asn Arg Leu Ser Arg Arg Phe Ser Pro Gly
145 150 155

<210>865
<211>986
<212>PRT
<213>Chlamydia trachomatis
<400>865
Gln Arg Val Phe Trp Arg Trp Gly Leu Leu Ser Phe Glu Asp Cys Ile

Sequence Listing

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  1               5                  10                  15
Ala Ile Leu Phe His Gly Lys Gly Arg Glu Lys Thr Pro Phe Phe Val
            20                  25                  30
Met Ser Arg Leu Asp Val Ser Val Phe Asp Ser Leu Ala Asn Lys Glu
        35                  40                  45
Lys Ala Ser Leu Leu Glu Glu Val Leu Cys Gly Glu Asn Leu Gln Asp
    50                  55                  60
Phe Thr Thr Tyr Ser Lys Val Ala Leu Ala Lys Lys Asn Leu Ala Ile
65                  70                  75                  80
Ala Arg Lys Leu Ala Ser Tyr Ile Leu Asn Glu Glu Gly Asp Leu Glu
                85                  90                  95
Leu Ser Arg Val Val Glu Ser Ile Gln Leu Leu Thr Lys Cys Leu Tyr
            100                 105                 110
Pro Leu Gly Pro Tyr Arg Gln Gly Glu Gly Pro Ile Arg Glu His Val
        115                 120                 125
Leu Lys Met Leu Glu Phe Leu Arg Asp Asp Gln Glu Ile Lys Asn Arg
    130                 135                 140
Phe Arg Arg Phe Phe Val Pro Ser Tyr Ala Arg Val Gln Asp Leu Ile
145                 150                 155                 160
Arg Asn Thr Leu Ala Leu Pro Ala Ser Glu Thr Val Thr Val Arg His
                165                 170                 175
Val Arg Glu Ala Ala Leu Val Ala Leu Phe Thr Tyr Leu Arg Gln Asp
            180                 185                 190
Val Gly Ser Cys Phe Ala Thr Ala Leu Ala Ile Leu Ile His Arg Glu
        195                 200                 205
Tyr Pro Leu Leu Phe Ile Arg Asp Leu Glu Asp Leu Leu Ser Ser Gly
    210                 215                 220
Lys Ile Ser Arg Ile Val Gly Asp Arg Glu Ile Ser Val Pro Ile Asn
225                 230                 235                 240
Leu Leu Pro Cys Val Gly Asp Leu Phe Lys Pro Ile Cys Val Met Asp
                245                 250                 255
Leu Tyr Pro Asn Pro Val Ala Thr Leu Ala Ala Ser Ser Asp Leu Gln
            260                 265                 270
Ala Ala Phe Val Ala Ser Gly Ile Phe Pro Thr Thr Gly Asp Ile Ala
        275                 280                 285
Gly Glu Val Gln Thr Leu Leu Ala Asn Glu Phe Ile Tyr Gln Lys Val
    290                 295                 300
Gln Asp Ile His Gly Lys Ile Thr Ala His Asp Val Ile Gln Asp Ser
305                 310                 315                 320
Leu Leu His His Tyr Gln Leu Ser Leu Ser Thr Val Gln Ala Ser Val
                325                 330                 335
Leu Gln Glu Gly Phe Arg Lys Glu Arg Gly Asp Gly Thr Val Leu Leu
            340                 345                 350
Ser Thr Asn Ser Gln Arg Val Leu Ser Tyr Leu Glu Ser Tyr Glu Gln
        355                 360                 365
Ala Lys Leu Gly Phe Ile Arg Asp Thr Gln Asn Val Leu Leu Lys Ser
    370                 375                 380
Trp Glu Tyr Thr Leu Ala Thr Leu Ala Asp Ala Ser Gln Thr Thr Thr
385                 390                 395                 400
Thr Lys His Leu Gln Ile Ala Leu Gly Trp Thr Ser Asp Asp Glu Asp
                405                 410                 415
Gly Leu Arg Glu Ile Ile Arg Arg Phe Leu Ala Glu Glu Val Ala Thr
            420                 425                 430
Thr Gln Ala Phe Ala Gly Gln Cys Glu Glu Thr Tyr Gln Glu Ala Lys
        435                 440                 445
Ala Gln Leu Glu Tyr Val Glu Ser Arg Met Arg Asn Pro Ile Asn Lys
    450                 455                 460
Gln Asp Ser Gln Ile Leu Ala Met Asp His Val Arg Phe Arg Gln Glu
465                 470                 475                 480
Leu Asn Gln Ala Leu Gln Asp Trp Asn Ala Ala Gln Glu Lys Leu Lys
                485                 490                 495
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Lys Met Ile Met Leu Pro Asp Phe Leu Leu Ser Phe Tyr Ser Arg Glu
500 505 510
Ile Pro Asn Tyr Phe Arg Ser Val Tyr Asp Ala Phe Ile Arg Glu Phe
515 520 525
Ser Gly Asn Tyr Gln Asp Val Pro Ala Gly Phe Arg Ile Leu Phe Thr
530 535 540
Tyr Gly Arg Ser His Pro Asn Thr Trp Glu Pro Ile Tyr Ser Ile Glu
545 550 555 560
Glu Phe Ile His Ala Leu Thr Glu Phe Phe Thr Ser Ile Glu Gly Asp
565 570 575
Leu Leu Ala Lys His Asn Val Ser Gly Leu Glu Lys Glu Thr Ser Ile
580 585 590
Leu Leu His Arg Ile Val Ser Ala Leu His Glu Pro Arg Phe Gln Glu
595 600 605
Ala Ala Met Glu Arg Ile Leu Lys Ala Tyr Asn Cys Pro Ile Pro Gln
610 615 620
Gly Ile Phe Gln His Leu Asp Gln Val Thr His Thr Pro Trp Val Tyr
625 630 635 640
Val Ser Gly Gly Thr Val Thr Thr Leu Val Gly Asp Tyr Phe Glu Asn
645 650 655
Ser Lys Pro Leu Val Lys Leu Glu Lys Leu Pro Ala Asp Pro His Glu
660 665 670
Leu Ala Ala Phe Phe Ala Asp Ala Leu Lys Asp Leu Pro Glu Ala Val
675 680 685
Lys Asp Tyr Val Glu Asn Gly Asp His Ser Leu Leu Ala Ala Ala Pro
690 695 700
Ser His Val Phe Ser Val Thr Ala Gly Ala Pro Leu Phe Arg Asp Ala
705 710 715 720
Trp Thr Asn Asp Trp Tyr Ser Tyr Thr Trp Leu Arg Asp Val Trp Leu
725 730 735
Ser Lys His Gln Asp Phe Leu Lys Arg Thr Leu Phe Asp Lys Ser Ala
740 745 750
Ile Tyr Ala Phe Ile Thr Arg Phe Cys Thr Arg Tyr Tyr Leu Gln Glu
755 760 765
Leu Thr Gln Asp Leu Leu Tyr Phe Cys Asp Asp Leu Ser Leu Ser Ile
770 775 780
Pro Glu Phe Tyr Glu Lys Ser Ser Arg Phe Phe Gln Ser Thr Val His
785 790 795 800
Asp Glu Lys Val Val Ala Thr Leu Gln Lys Tyr Leu Ala Ser Gln Phe
805 810 815
Val His Glu Ala Pro Tyr Val Ser Glu Gln Gln Leu Pro Gln Ile Ile
820 825 830
Ser Asp Leu Ser Ser Tyr Leu Gly Ile Ser Ser Arg Ile Ser Tyr Asp
835 840 845
Gln Leu Ala Thr Leu Leu Glu Glu Asn Val Gly Lys His Ser Leu Leu
850 855 860
Ser Ser Ser Asp Leu Arg His Leu Tyr Lys Gly Leu Leu Met Ala Gly
865 870 875 880
Tyr Gln Arg Val Tyr His Glu Glu Asp Leu Ser Met Arg Leu Ile Ala
885 890 895
Ala Met Arg His Tyr Gly Leu Ala Tyr Pro Ala Pro Leu Leu Phe Gly
900 905 910
Asp Thr Asn Trp Ala Tyr Arg Tyr Phe Gly Phe Ile Xaa His Pro Gly
915 920 925
Thr Gln Glu Met Asp Leu Trp Glu Phe Asn Tyr Leu Gly Leu Val Gly
930 935 940
Arg Pro Ser Glu Asn Lys Glu Arg Trp Phe Ala Val Arg Asp Pro Trp
945 950 955 960
Ala Leu Tyr Pro Glu Ser His Arg Leu Arg Asn Gly Pro Ser Thr Arg
965 970 975
Leu Ser Lys Trp Ile Ala Glu Arg Phe Phe

Serial No. 09/826,870

980 985

<210>866
<211>112
<212>PRT
<213>Chlamydia trachomatis
<400>866

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            20                  25                  30
Glu Ala Ala Arg Val Ala Thr Gly Leu Gly Tyr Lys Ser Ile Thr Gln
        35                  40                  45
Ile Gly Leu Asn Lys Ser Pro Thr His Gly Arg Arg Leu Ile Gly Thr
    50                  55                  60
Glu Ile Ser Arg Ser Pro Thr Ile Arg Asp Ile Phe Pro Glu Asp Asn
65                  70                  75                  80
Lys Ser Ser Lys Ser Arg Ile Asn Asn Asn Gly Tyr Ser Arg Trp Ile
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Arg Ile Ala Asn Ala Val Ala Lys Gln Asp Pro Thr Ser Cys Arg Lys
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Leu Leu Phe Leu Phe Leu Val Ile Pro Ala Pro Leu Leu Leu Asn Leu
            20                  25                  30
Val Val Leu Ser Phe Phe Ser Phe Ala Ala Val Lys Thr Thr Ile Ile
        35                  40                  45
Gln Asp Leu His Thr Arg Thr Met Asn Phe Asn Leu Glu Leu Glu Lys
    50                  55                  60
Lys Ile Ala Ile Gln Asn Ile Phe Leu Lys Arg Leu Ala Glu Thr Leu
65                  70                  75                  80
Ala Leu Lys Thr Leu Thr Thr Ser His Asp Phe Phe Thr Glu Ala Tyr
                85                  90                  95
Ser Glu Met Ile Ala Leu Gly Asp Thr Asp Leu Ser Leu Cys Leu Leu
            100                 105                 110
Ser Ser Ala Asn Asp Ser Ile Arg Thr Lys Asn Pro Arg Asp Pro Phe
        115                 120                 125
Val Arg Tyr Ile Lys Ala His Pro Glu Ile Arg Asp Lys Leu Ile Gln
    130                 135                 140
Asn Pro Gly Asn Ala Ser Leu Ile Ser Ile Ser Glu Arg Pro Asp Thr
145                 150                 155                 160
Glu Asp His Tyr Leu Val Phe Ala Glu Pro Leu Pro Ile Tyr Glu Asp
                165                 170                 175
Pro Ser Leu Ala Gly Trp Val Ile Ala Phe Tyr Ser Met Gln Lys Leu
            180                 185                 190
Arg Asn Tyr Leu Phe His Asn Lys Gln Ser Tyr Gln Asp Leu Leu Cys
        195                 200                 205
Tyr Leu Asn His Lys Gly Glu Leu Leu Phe Ser Asp Ser Ser Pro Phe
    210                 215                 220
Gln Asn Gly Ala Phe Ser Leu Ser Met Glu Gly Tyr Pro Ala Leu Ser
225                 230                 235                 240
Ser Glu Lys Ala Ser Tyr Pro Leu Glu Pro Ser Pro Glu Leu Phe Lys
                245                 250                 255
Ala Lys Glu Leu Leu Lys Val Ser Asn Thr Arg Glu Asn Phe Leu Ser
            260                 265                 270
Leu Phe Ile Ser Leu Ala Ala Tyr Thr Thr Tyr Pro Phe Ser Cys Ala
        275                 280                 285
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09614-9609P60

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Asp Pro Ser Ile His Leu His Tyr Thr Ser Leu Arg Leu Pro Ile Asn
    290                 295                 300
Val Ile Leu Phe Tyr Ile Leu Ala Phe Ser Leu Met Gly Trp Val Leu
305                 310                 315                 320
Ser Cys Thr Ser Lys Arg Leu Asn Arg Pro Leu Gln Glu Leu Ser Val
                325                 330                 335
Ser Met Glu Ser Ala Trp Lys Gly Asn His Asn Val Arg Tyr Glu Pro
            340                 345                 350
Gln Pro Tyr Gly Tyr Glu Ile Asn Glu Leu Gly Asn Ile Phe Asn Cys
        355                 360                 365
Thr Leu Leu Leu Leu Leu Asn Val Lys Glu Lys Ala Glu Ile Glu Tyr
    370                 375                 380
Ile Ser Gly Asn Leu Leu Gln Lys Glu Leu Ala Leu Leu Ser Ser Leu
385                 390                 395                 400
Lys Asp Thr Leu Leu Cys Gln Arg Ser Asn Ser Leu Pro Gly Gly Thr
                405                 410                 415
Phe Ser Leu His Tyr Leu Gln Gly Glu Gln Gln Thr Gly Tyr Phe Tyr
            420                 425                 430
Gly Trp Val Ala Thr Pro Glu Lys Asp Arg Leu Phe Gly Val Ile Gly
        435                 440                 445
Ile Ala Gly Asp Ile Gly Leu Pro Ser Tyr Leu Tyr Ala Leu Ser Ala
    450                 455                 460
Arg Ser Leu Phe Leu Thr Tyr Ala Ser Leu Gly Tyr Ser Leu Pro Ser
465                 470                 475                 480
Ile Cys His Lys Thr Met Arg Ser Phe Asp Glu Thr Thr Val Gly Asn
                485                 490                 495
Glu Ala Ser Val Ser Ile Ala Cys Leu Glu Tyr Asp Leu Ser Ser Lys
            500                 505                 510
Ser Leu Ser Val Leu Thr Glu Gly Ala Asn Pro Pro Thr Leu Phe Ile
        515                 520                 525
Lys Arg Gln Glu His Leu Leu Thr Met Ser Glu Gln Gln Arg Ile Glu
    530                 535                 540
Thr Gly Asp Ile Leu Val Cys Leu Thr Gly Gly Pro His Ile Ile Gln
545                 550                 555                 560
Tyr Leu Lys Thr Leu Pro Ile Glu Ala Leu Leu Lys Asp Pro Leu Ala
                565                 570                 575
Pro Leu Asn Ser Lys Asn Phe Ala Glu Met Leu Thr Thr Met Leu Arg
            580                 585                 590
Ser Lys Asn Gln Thr Gln Ile Asp Gly Ala Val Gly Phe Leu Ser Phe
        595                 600                 605
Ile
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09654-0020P2

<210>868
<211>658
<212>PRT
<213>Chlamydia trachomatis
<400>868

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Lys Tyr Ser Met Ile Ser Phe Thr Arg Thr Ile Gly Phe Arg Leu Trp
            20                  25                  30
Leu Ile Cys Val Ala Ala Ile Met Phe Pro Leu Gly Ile Asn Ile Leu
        35                  40                  45
Gln Leu Asn Leu Gln Gln Tyr Lys Lys Thr Leu Ser Ser Ile Thr Ser
    50                  55                  60
Asp Leu Arg Glu Asn Ala Leu Phe Lys Ala His Thr Leu Gln Gln Thr
65                  70                  75                  80
Ile Pro Leu Asn Ile Asp Ile Leu Ala Leu Phe Ser Glu Ile Phe Asp
                85                  90                  95
Leu Asp Arg Gly Val Pro Ala Glu Pro Asp Leu Ala Leu Ser Lys Glu
            100                 105                 110
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Met Glu Lys Ile Phe His Ser Thr Tyr Lys Glu Ile Ser Leu Val Lys
        115                 120                 125
Lys Glu Ala Asp Gly Asn Phe Arg Val Val Ala Ser Ser Arg Ile Glu
    130                 135                 140
Gln Leu Gly Lys Asn Tyr Asn Gln Glu Ile Phe Leu Ser Asp Ser Gln
145                 150                 155                 160
Pro Phe Leu Ala Thr Leu Arg His Ser Gly Ser Asp Ser Gln Val Leu
                165                 170                 175
Ala Val Leu Gln Thr Asn Ile Phe Asp Ile Ser Ser Gln Glu Val Leu
            180                 185                 190
Gly Val Leu Tyr Thr Leu Ser Asp Thr Asn Tyr Leu Leu Asn Gly Leu
        195                 200                 205
Leu Ala Ala Lys Asp Pro Leu Ser Val Lys Thr Ala Ile Leu Ser Lys
    210                 215                 220
Asn Gly Ile Ile Leu Gln Ala Thr Asp Ser Ser Leu Asp Leu Val Ser
225                 230                 235                 240
Ile His Lys Thr Val Ser Lys Glu Gln Phe Cys Asp Val Phe Leu Arg
                245                 250                 255
Asp Asp Ile Cys Pro Pro His Leu Leu Leu Arg Pro Pro Leu Asn Leu
            260                 265                 270
Asp Pro Leu Pro Tyr Gly Glu Asn Phe Val Ser Phe Cys Ile Gly Asn
        275                 280                 285
Thr Glu Met Trp Gly Tyr Ile His Ser Leu Pro Glu Met Asp Phe Arg
    290                 295                 300
Ile Leu Thr Tyr Glu Glu Lys Ser Ile Ile Phe Ala Ser Leu Trp Arg
305                 310                 315                 320
Arg Thr Leu Leu Tyr Phe Ala Tyr Phe Cys Cys Val Leu Leu Gly Ser
                325                 330                 335
Ile Thr Ala Phe Leu Val Ala Lys Arg Leu Ser Lys Pro Ile Arg Lys
            340                 345                 350
Leu Ala Thr Ala Met Met Glu Thr Arg Arg Asn Gln His His Pro Tyr
        355                 360                 365
Glu Pro Asp Ser Leu Gly Phe Glu Ile Asn His Leu Gly Glu Ile Phe
    370                 375                 380
Asn Ser Met Val Gln Ser Leu Ser Gln Gln Gln Ser Leu Ala Glu Lys
385                 390                 395                 400
Asn Phe Glu Ile Lys Gln His Ala Gln Asn Ala Leu Arg Leu Gly Glu
                405                 410                 415
Glu Ala Gln Gln Arg Leu Leu Pro Asn Gln Leu Pro Asp Ser Ala Thr
            420                 425                 430
Thr Glu Ile Ala Lys Ala Tyr Ile Pro Ala Val Thr Val Gly Gly Asp
        435                 440                 445
Phe Phe Asp Ile Phe Val Ile Gly Glu Gly Pro Gln Ala Lys Leu Phe
    450                 455                 460
Leu Ile Val Ala Asp Ala Ser Gly Lys Gly Val Asn Ala Cys Ala Tyr
465                 470                 475                 480
Ser Leu Phe Leu Lys Asn Met Leu His Thr Phe Leu Ser Glu Leu Ser
                485                 490                 495
Ser Ile Gln Glu Ala Val Gln Gln Thr Ala Ala Leu Phe Tyr Gln Gln
            500                 505                 510
Thr Ala Glu Ser Gly Met Phe Val Thr Leu Cys Ile Tyr Cys Tyr His
        515                 520                 525
Tyr Ala Thr Arg Glu Leu Glu Tyr Tyr Ser Cys Gly His Asn Pro Ala
    530                 535                 540
Cys Leu Arg Ala Pro Asn Gly Asp Ile Ser Phe Leu Ser His Pro Gly
545                 550                 555                 560
Met Ala Leu Gly Phe Leu Pro Glu Val Pro Pro His Pro Ala Tyr Thr
                565                 570                 575
Leu Val Leu Glu Glu Glu Ser Leu Leu Val Leu Tyr Thr Asp Gly Val
            580                 585                 590
Thr Glu Ala Ser Asn Lys His Gly Glu Met Phe Gly Glu Glu Arg Leu
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09624.1 = 60926.1

595 600 605
Lys Ala Leu Val Ala Ser Leu Thr Lys Gln Ser Ala Glu Glu Ala Ile
610 615 620
Gln Ser Ile Met Phe Ser Ile Lys Ser Phe Val Lys Asp Cys Pro Gln
625 630 635 640
His Asp Asp Ile Thr Leu Leu Val Leu Lys Ile Pro Lys Glu Pro Ser
645 650 655
Ala Tyr

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20 25 30
Thr Ser Glu Leu Leu Ser Leu Thr Val Leu Asp Lys Asp Leu Val Met
35 40 45
Phe Asp Val Val Ile Ser Asp Ile Glu Ala Arg Glu Ile Leu Asp Ser
50 55 60
Arg Gly Tyr Pro Thr Leu Cys Val Lys Val Ile Thr Asn Thr Gly Thr
65 70 75 80
Phe Gly Glu Ala Cys Val Pro Ser Gly Ala Ser Thr Gly Ile Lys Glu
85 90 95
Ala Leu Glu Leu Arg Asp Lys Asp Pro Lys Arg Tyr Gln Gly Lys Gly
100 105 110
Val Leu Gln Ala Ile Ser Asn Val Glu Lys Val Leu Val Pro Ala Leu
115 120 125
Gln Gly Phe Ser Val Phe Asp Gln Ile Thr Ala Asp Ala Ile Met Ile
130 135 140
Asp Ala Asp Gly Thr Pro Asn Lys Glu Lys Leu Gly Ala Asn Ala Ile
145 150 155 160
Leu Gly Val Ser Leu Ala Phe Ser Lys Ser Cys Leu Gln Ile Leu Tyr
165 170 175
Arg Asp Leu Leu Tyr Arg Tyr Leu Gly Gly Ser Phe Ser His Val Leu
180 185 190
Pro Cys Pro Met Met Asn Leu Ile Asn Gly Gly Met His Ala Thr Asn
195 200 205
Gly Leu Gln Phe Gln Glu Phe Met Ile Arg Pro Ile Ser Ala Pro Ser
210 215 220
Leu Lys Glu Ala Val Arg Met Gly Ala Glu Val Phe Asn Ala Leu Lys
225 230 235 240
Lys Ile Leu Gln Asn Arg Gln Leu Ala Thr Gly Val Gly Asp Glu Gly
245 250 255
Gly Phe Ala Pro Asn Leu Ala Ser Asn Ala Glu Ala Leu Asp Leu Leu
260 265 270
Leu Thr Ala Ile Glu Thr Ala Gly Phe Thr Pro Arg Glu Asp Ile Ser
275 280 285
Leu Ala Leu Asp Cys Ala Ala Ser Ser Phe Tyr Asn Thr Gln Asp Lys
290 295 300
Thr Tyr Asp Gly Lys Ser Tyr Ala Asp Gln Val Gly Ile Leu Ala Glu
305 310 315 320
Leu Cys Glu His Tyr Pro Ile Asp Ser Ile Glu Asp Gly Leu Ala Glu
325 330 335
Glu Asp Phe Glu Gly Trp Lys Leu Leu Ser Glu Thr Leu Gly Asp Arg
340 345 350
Val Gln Leu Val Gly Asp Asp Leu Phe Val Thr Asn Ser Ala Leu Ile
355 360 365
Ala Glu Gly Ile Ala Gln Gly Leu Ala Asn Ala Val Leu Ile Lys Pro

09604-4700-00US

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    370                 375                 380
Asn Gln Ile Gly Thr Leu Thr Glu Thr Ala Glu Ala Ile Arg Leu Ala
385                 390                 395                 400
Thr Ile Gln Gly Tyr Ala Thr Ile Leu Ser His Arg Ser Gly Glu Thr
                405                 410                 415
Glu Asp Thr Thr Ile Ala Asp Leu Ala Val Ala Phe Asn Thr Gly Gln
            420                 425                 430
Ile Lys Thr Gly Ser Leu Ser Arg Ser Glu Arg Ile Ala Lys Tyr Asn
        435                 440                 445
Arg Leu Met Ala Ile Glu Glu Glu Met Gly Pro Glu Ala Leu Phe Gln
    450                 455                 460
Asp Ser Asn Pro Phe Ser Lys Ala
465                 470
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Gln Phe Val Leu His Ala Pro Phe Leu Pro Cys Gly Asp Gln Pro Glu
            20                  25                  30
Ala Ile Arg Arg Leu Ser Gln Gly Ile Thr Asp Gly Val Pro Ala Gln
        35                  40                  45
Val Leu Leu Gly Thr Thr Gly Ser Gly Lys Thr Phe Thr Met Ala Asn
    50                  55                  60
Val Ile Ala Asn Val Asn Val Pro Thr Leu Val Leu Ala His Asn Lys
65                  70                  75                  80
Thr Leu Ala Ala Gln Leu Tyr Gln Glu Phe Lys Ala Phe Phe Pro Glu
                85                  90                  95
Asn Ala Val Glu Tyr Phe Ile Ser Tyr Tyr Asp Tyr Tyr Gln Pro Glu
            100                 105                 110
Ala Tyr Ile Ala Arg Ser Asp Thr Tyr Ile Glu Lys Ser Leu Leu Ile
        115                 120                 125
Asn Asp Glu Ile Asp Lys Leu Arg Leu Ser Ala Thr Arg Ser Ile Leu
    130                 135                 140
Glu Arg Arg Asp Thr Leu Ile Val Ser Ser Ile Ser Cys Ile Tyr Gly
145                 150                 155                 160
Ile Gly Ser Pro Asp Asn Tyr Ser Ser Met Ala Leu Thr Leu Glu Val
                165                 170                 175
Gly Lys Glu Tyr Pro Arg Ser Gln Leu Ser Ser Gln Leu Val Arg Met
            180                 185                 190
His Tyr Gln Ala Ser Ser Thr Pro Gln Arg Ser Ala Phe Arg Glu Arg
        195                 200                 205
Gly Ser Val Ile Asp Ile Phe Leu Ala Tyr Glu Ser Asp Leu Ala Val
    210                 215                 220
Arg Leu Glu Phe Met Asn Asp Thr Leu Ile Ser Ile Glu Tyr Val Asp
225                 230                 235                 240
Pro Leu Thr Met Ile Pro Ser His Thr Thr Ser Ser Ile Thr Leu Tyr
                245                 250                 255
Pro Gly Ser His Tyr Val Thr Pro Glu Ala Val Arg Glu Gln Ala Ile
            260                 265                 270
Arg Thr Ile Arg Glu Glu Leu Glu Gln Arg Met Leu Phe Phe Glu Gly
        275                 280                 285
Arg Pro Val Glu Gln Glu Arg Leu Phe Gln Arg Thr Thr His Asp Ile
    290                 295                 300
Glu Met Ile Lys Glu Ile Gly Phe Cys Lys Gly Ile Glu Asn Tyr Ser
305                 310                 315                 320
Arg His Phe Thr Gly Ala Ala Pro Gly Glu Pro Pro Thr Cys Leu Leu
                325                 330                 335
Asp Tyr Phe Pro Asp Asp Phe Leu Leu Ile Ile Asp Glu Ser His Gln
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09676426.0

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                340                 345                 350
Thr Leu Pro Gln Leu Arg Ala Met Tyr Arg Gly Asp Gln Ser Arg Lys
            355                 360                 365
Gln Ser Leu Val Glu Tyr Gly Phe Arg Leu Pro Ser Ala Phe Asp Asn
    370                 375                 380
Arg Pro Leu Thr Tyr Glu Glu Ala Arg Arg Tyr Phe His Arg Val Ile
385                 390                 395                 400
Tyr Val Ser Ala Thr Pro Gly Asp Leu Glu Ile Gln Glu Ser Arg Gly
                405                 410                 415
His Ile Ile Glu Gln Ile Ile Arg Pro Thr Gly Ile Pro Asp Leu Leu
            420                 425                 430
Pro Glu Ile Arg Pro Ala Lys Gly Gln Ile Asp Asp Leu Leu Glu Glu
        435                 440                 445
Ile Arg Gln Arg Leu Arg Lys Asp Gln Glu Lys Ile Leu Val Ile Ser
    450                 455                 460
Val Thr Lys Lys Leu Ala Glu Asp Ile Ala Ala Phe Leu Ala Glu Leu
465                 470                 475                 480
Gly Ile Ala Ala Ala Tyr Leu His Ser Gly Ile Glu Thr Ala Glu Arg
                485                 490                 495
Thr Gln Ile Leu Thr Asp Leu Arg Leu Gly Asn Ile Asp Val Leu Ile
            500                 505                 510
Gly Val Asn Leu Leu Arg Glu Gly Ile Asp Leu Pro Glu Val Ser Leu
        515                 520                 525
Val Ala Ile Leu Asp Ala Asp Lys Glu Gly Phe Leu Arg Ser Ser Ala
    530                 535                 540
Ser Leu Ile Gln Phe Cys Gly Arg Ala Ala Arg Asn Ile His Gly Lys
545                 550                 555                 560
Val Ile Cys Tyr Ala Asp Arg Ile Thr Pro Ser Met Asp His Met Leu
                565                 570                 575
Lys Glu Thr Glu Arg Arg Arg Lys Ile Gln Leu Asp Tyr Asn Gln Gln
            580                 585                 590
His Lys Ile Thr Pro Gln Pro Ile Ile Lys Pro Phe Leu Ala Asn Pro
        595                 600                 605
Ile Thr Lys Glu Ala Gly Gln Glu Glu Thr Arg Leu Lys Met Gln Ser
    610                 615                 620
Ser Lys Glu Leu Glu Ala Ser Ile Lys Thr Tyr Glu Glu Ala Met Tyr
625                 630                 635                 640
Gln Ala Ala Gln Glu Phe Gln Phe Asp Glu Ala Ala Lys Tyr Arg Asp
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Leu Met Asn Ala Ala Lys Lys Gln Leu Leu Phe Gln Lys Gly Glu Glu
            660                 665                 670
Glu Asn Gly Asp
        675
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Arg Ile Lys Glu Lys Ala Arg Ser Glu Val Phe Ser Pro Arg Glu Ser
            20                  25                  30
Thr Met Lys Lys Lys Arg Val Leu Thr Gly Asp Arg Pro Thr Gly Lys
        35                  40                  45
Leu His Leu Gly His Trp Ile Gly Ser Ile Met Asn Arg Leu Gln Leu
    50                  55                  60
Gln Asn Asp Ser Arg Tyr Asp Cys Phe Phe Ile Ile Ala Asp Leu His
65                  70                  75                  80
Thr Leu Thr Thr Lys Thr Arg Lys Glu Glu Val Leu Gln Ile Asp Asn
                85                  90                  95
His Ile Tyr Asp Val Leu Ala Asp Trp Leu Ser Val Gly Ile Asn Pro
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09604204.060205

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                100                 105                 110
Glu Lys Ser Ala Ile Tyr Leu Gln Ser Ala Ile Pro Glu Ile Tyr Glu
        115                 120                 125
Leu Asn Leu Ile Phe Ser Met Leu Thr Pro Leu Asn His Ile Met Gly
    130                 135                 140
Ile Pro Ser Ile Lys Glu Met Ala Ser Asn Ala Ser Leu Asn Glu Glu
145                 150                 155                 160
Ser Leu Ser His Gly Leu Ile Gly Tyr Pro Val Leu Gln Ser Ala Asp
                165                 170                 175
Ile Leu Leu Ala Lys Ala His Leu Val Pro Val Gly Lys Asp Asn Glu
            180                 185                 190
Ala His Val Glu Leu Thr Arg Asp Ile Ala Lys Thr Phe Asn Arg Leu
        195                 200                 205
Tyr Gly Glu Val Phe Pro Glu Pro Asp Ile Leu Gln Gly Glu Leu Thr
    210                 215                 220
Ala Leu Val Gly Thr Asn Gly Gln Gly Lys Met Ser Lys Ser Ala Asn
225                 230                 235                 240
Asn Ala Ile Tyr Leu Ser Asp Asp Ala Lys Thr Val Gln Glu Lys Ile
                245                 250                 255
Arg Lys Leu Tyr Thr Asp Pro Asn Arg Ile His Ala Thr Thr Pro Gly
            260                 265                 270
Arg Val Glu Gly Asn Pro Leu Phe Ile Tyr His Asp Leu Phe Asn Pro
        275                 280                 285
His Lys Glu Glu Val Glu Glu Phe Lys Thr Arg Tyr Arg Gln Gly Cys
    290                 295                 300
Ile Lys Asp Val Glu Val Lys Ala Arg Leu Ala Glu Glu Ile Asn Leu
305                 310                 315                 320
Phe Leu Asn Pro Phe Arg Glu Lys Arg Ser Glu Leu Val Ala Gln Pro
                325                 330                 335
Lys Phe Leu Glu Glu Ala Leu Gln Gln Gly Thr Glu Lys Met Arg Thr
            340                 345                 350
Val Ala Arg Glu Thr Met Glu Glu Val His Asp His Leu Gly Leu Ser
        355                 360                 365
Arg Lys Trp Arg Thr Ile Leu Ala Ser Ser Lys
    370                 375
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Tyr Pro Val Met Thr Thr Lys Pro Lys Thr Leu Glu Ile Asp Asn Asn
             20                  25                  30
Thr Phe Leu Leu Leu Glu Gly Asn Leu Lys Arg Ile Phe Ala Thr Pro
         35                  40                  45
Ile Gly Tyr Thr Thr Phe Arg Glu Phe Gln Asn Val Val Phe Asn Cys
     50                  55                  60
Ala Gln Gly Gln Gln Glu Leu Ala Asn Phe Leu Phe Glu Met Leu Ile
 65                  70                  75                  80
Asn Gly Lys Leu Leu Gln Glu Leu Pro Ala Gly Gln Lys Gln Ser Ala
                 85                  90                  95
Gln Ser Leu Ile Val Gln Phe Met Met Pro Ile Arg Val Ala Lys Asp
            100                 105                 110
Ile His Glu Arg Gly Glu Phe Ile Asn Phe Ile Thr Ser Asp Met Leu
        115                 120                 125
Ala Gln Gln Glu Arg Cys Val Phe Leu Asn Arg Leu Ser Arg Val Asp
    130                 135                 140
Gly Gln Glu Phe Leu Leu Met Thr Asp Val Gln Asn Thr Cys His Leu
145                 150                 155                 160
Ile Arg His Leu Leu Ser Arg Leu Leu Glu Ala Gln Lys Asn Pro Ile
```

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Gly Glu Lys Asn Leu Gln Glu Ile Gln Glu Asp Leu Asp Ser Leu Arg
            180                 185                 190
Ala His Phe Glu Glu Leu Thr Lys Ser Val
        195                 200
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Val Thr Cys Asn Val Met Gly Asn Ile Lys Thr Leu Leu Glu Ile Arg
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Phe Lys Lys Pro Thr Pro Xaa Lys Met Glu Ser Leu Xaa Lys Lys Arg
            20                  25                  30
Leu Glu Gly Glu Leu Ser Pro Xaa Xaa Asn Gly Phe Thr Thr Pro Lys
        35                  40                  45
Leu Cys Ser Gln Glu Glu Ala Arg Phe Arg Gln Leu Leu Glu Glu Tyr
    50                  55                  60
Ser Phe Ser Lys Glu Ile Ser His Asn Asp Leu Gln Gln Leu Cys His
65                  70                  75                  80
Leu Ser Ala Gln Val Lys Gln Ile His His Gln Ala Val Leu Leu His
                85                  90                  95
Gly Glu Arg Ile Lys Lys Val Arg Glu Leu Leu Lys Thr Tyr Arg Glu
            100                 105                 110
Gly Ala Phe Ser Ala Trp Leu Leu Leu Thr Tyr Gly Asn Arg Gln Thr
        115                 120                 125
Pro Tyr Asn Phe Leu Val Tyr Tyr Glu Leu Phe Ser Ala Leu Pro Asp
    130                 135                 140
Thr Leu Lys Leu Glu Leu Glu Arg Leu Pro Arg Gln Ala Val Tyr Thr
145                 150                 155                 160
Leu Ala Ser Arg Glu Gly Ser Gln Glu Lys Lys Glu Glu Ile Ile Arg
                165                 170                 175
Asn Tyr Gln Gly Glu Thr Arg Gly Glu Leu Leu Glu Ile Ile Arg Arg
            180                 185                 190
Glu Phe Pro Leu Leu Pro Thr Asp Arg Arg Gln Ser Ser Leu Ala Gln
        195                 200                 205
Gln Ala Phe Ser Phe Phe Ala Lys Gly Thr Lys Leu Leu Gln Arg Cys
    210                 215                 220
Thr Asp Ile Ser Gln Glu Glu Leu Leu Ser Leu Glu Lys Leu Ile Lys
225                 230                 235                 240
Lys Leu Gln Lys Val Thr Thr Asn Leu Leu Ser Asn Thr Lys Val Ser
                245                 250                 255
Arg Asn Asp Asp Glu Thr Gln Asn Ser Arg Asn Arg
            260                 265
<210>874
<211>317
<212>PRT
<213>Chlamydia trachomatis
<400>874
Thr Phe Leu Pro Glu Asp Thr Val Pro Asn Asn Ile Glu Lys Arg Tyr
  1               5                  10                  15
Leu Glu Ser Phe Leu Thr Leu Phe Ile Ser Phe Asn Leu Ile Arg Pro
            20                  25                  30
Cys Leu Trp Thr Asn Gln Tyr Lys Gly Ile Lys Ala Thr Lys Lys Glu
        35                  40                  45
Arg Gly Phe Leu Pro Leu Gln Gly Leu His Leu Val Ile Asn Met Lys
    50                  55                  60
Thr Ile Ala Val Asn Ser Phe Lys Gly Gly Thr Ala Lys Thr Ser Thr
65                  70                  75                  80
Thr Leu His Leu Gly Ala Ala Leu Ala Gln Tyr His Lys Ala Arg Val
                85                  90                  95
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Leu Leu Ile Asp Phe Asp Ala Gln Ala Asn Leu Thr Ala Gly Leu Gly
            100                 105                 110
Leu Asp Pro Asp Cys Tyr Asp Ser Leu Ala Val Val Leu Gln Gly Glu
        115                 120                 125
Lys Asn Ile Glu Glu Val Ile Arg Pro Ile Asp Ser Ser Gly Leu Asp
    130                 135                 140
Leu Ile Pro Ala Asp Thr Trp Leu Glu Arg Val Glu Val Ser Gly Ser
145                 150                 155                 160
Leu Ala Ala Asp Arg Tyr Ser His Glu Arg Leu Lys Ile Ile Leu Ser
                165                 170                 175
Lys Ile Glu His Arg Tyr Asp Tyr Val Ile Ile Asp Thr Pro Pro Ser
            180                 185                 190
Leu Cys Trp Leu Thr Glu Ser Ala Leu Ile Ala Ala Gln His Ala Leu
        195                 200                 205
Ile Cys Ala Thr Pro Glu Phe Tyr Ser Val Lys Gly Leu Glu Arg Leu
    210                 215                 220
Ala Thr Phe Ile Gln Gly Ile Ser Ser Arg His Pro Leu Asn Ile Leu
225                 230                 235                 240
Gly Val Thr Leu Ser Phe Trp Asn Tyr Arg Gly Lys Asn Asn Ala Ala
                245                 250                 255
Phe Thr Glu Leu Ile Gln Lys Thr Phe Pro Gly Lys Leu Leu Asn Thr
            260                 265                 270
Arg Ile Arg Arg Asp Ile Thr Ile Ser Glu Ala Ala Ile His Gly Lys
        275                 280                 285
Pro Val Phe Ser Thr Ala Pro Ser Ala Arg Ala Ser Glu Asp Tyr Leu
    290                 295                 300
Lys Leu Thr Glu Glu Leu Leu Phe Leu Leu Ser Asp Met
305                 310                 315
<210>875
<211>663
<212>PRT
<213>Chlamydia trachomatis
<400>875
Asn Ala Thr Met Ala Asn Thr Pro Arg Lys Lys Arg Arg Phe Phe Ala
  1                 5                  10                  15
Ala Val Cys Ser Lys Phe Phe Ile Tyr Gly Glu Gly Met Ile His Val
             20                  25                  30
Thr Cys Asn Gln Glu Ala Phe Glu Leu Pro Glu Gly Ala Ser Ala Met
         35                  40                  45
Asp Leu Ala Asn Lys Met Lys Gln Ser His Cys Phe Val Gly Ala Leu
     50                  55                  60
Ile Asn Asp Gln Glu Lys Asp Leu Ser Thr Thr Leu Gln Asp Gly Asp
 65                  70                  75                  80
Thr Val Leu Phe Leu Thr Trp Asp Asp Pro Lys Gly Arg Glu Ile Phe
                 85                  90                  95
Leu His Thr Ser Ala His Ile Leu Ala Gln Ala Val Leu Arg Leu Trp
            100                 105                 110
Pro Ser Ala Gln Pro Thr Ile Gly Pro Val Ile Asp Gln Gly Phe Tyr
        115                 120                 125
Tyr Asp Phe Ala Asn Leu Ser Ile Ser Glu Glu Asp Phe Pro Ala Ile
    130                 135                 140
Glu Ala Met Ala Lys Thr Ile Ala Glu Glu Lys Phe Pro Ile Ser Arg
145                 150                 155                 160
Gln Val Phe Pro Asp Lys Glu Ala Ala Leu Ala Tyr Phe Ser Gln Asn
                165                 170                 175
Pro Phe Lys Ala Glu Leu Ile Ala Glu Leu Pro Glu Glu Val Glu Ile
            180                 185                 190
Ser Ala Tyr Thr Gln Gly Glu Phe Leu Asp Leu Cys Arg Gly Pro His
        195                 200                 205
Leu Pro Ser Thr Ala Pro Val Lys Ala Phe Lys Leu Leu Arg Thr Ser
    210                 215                 220
```

09615269 - 09615269

Ser Ala Tyr Trp Lys Gly Asp Pro Ser Arg Glu Ser Leu Ile Arg Ile
225 230 235 240
Tyr Gly Val Ser Phe Pro Thr Thr Lys Glu Leu Lys Glu His Leu His
245 250 255
Gln Leu Glu Glu Ala Lys Lys Arg Asp His Arg Val Leu Gly Thr Lys
260 265 270
Leu Asp Leu Phe Ser Gln Gln Thr Cys Ser Ala Gly Met Pro Phe Phe
275 280 285
His Pro Arg Gly Met Val Val Trp Asn Ala Leu Val Asp Tyr Trp Lys
290 295 300
Arg Leu His Gln Arg Ala Gly Tyr Gln Gln Ile Gln Thr Pro Gln Leu
305 310 315 320
Met Asn Arg Glu Leu Trp Glu Ile Ser Gly His Trp Glu Asn Tyr Lys
325 330 335
Glu Asn Met Tyr Thr Leu Thr Val Asp Glu Glu Asp Tyr Ala Ile Lys
340 345 350
Pro Met Asn Cys Pro Gly Cys Met Leu Tyr Tyr Lys Thr Gln Leu His
355 360 365
Ser Tyr Arg Glu Phe Pro Leu Arg Ile Ala Glu Ile Gly His Val His
370 375 380
Arg His Glu Leu Ser Gly Ala Leu Ser Gly Leu Met Arg Val Arg Thr
385 390 395 400
Phe His Gln Asp Asp Ala His Val Phe Leu Thr Pro Glu Gln Val Glu
405 410 415
Glu Glu Thr Leu Asn Ile Leu Asn Leu Val Ser Glu Leu Tyr Gly Thr
420 425 430
Phe Gly Leu Glu Tyr His Leu Glu Leu Ser Thr Arg Pro Glu Gln Gly
435 440 445
Thr Ile Gly Ser Asp Asp Leu Trp Glu Leu Ala Thr Glu Ala Leu Lys
450 455 460
Arg Ala Leu Val Lys Ser Gln Lys Pro Phe Ile Ile Ser Pro Gly Glu
465 470 475 480
Gly Ala Phe Tyr Gly Pro Lys Ile Asp Ile His Val Lys Asp Ala Ile
485 490 495
Asn Arg Thr Trp Gln Cys Gly Thr Ile Gln Leu Asp Met Phe Leu Pro
500 505 510
Glu Arg Phe Asp Leu Lys Tyr Thr Asn Ala Gln Gly Glu Lys Ser Thr
515 520 525
Pro Ile Met Leu His Arg Ala Leu Phe Gly Ser Ile Glu Arg Phe Leu
530 535 540
Gly Ile Leu Ile Glu His Phe Lys Gly Arg Phe Pro Leu Trp Leu Ser
545 550 555 560
Pro Glu His Val Arg Ile Ile Thr Val Ala Asp Arg His Glu Ala Arg
565 570 575
Ala Gln Glu Leu Ala Lys His Phe Ser Gln Met Gly Ile Ile Val Ser
580 585 590
Val Asp Ser Ser Asn Glu Ser Val Ser Lys Lys Ile Arg Asn Ala Gln
595 600 605
Asn Met Gln Val Asn Tyr Met Ile Thr Ile Gly Asp Lys Glu Leu Glu
610 615 620
Thr His Leu Leu Ala Val Arg Thr Arg Asp Asn Arg Val Leu Asn Asp
625 630 635 640
Ile Ala Val Glu Gln Phe Ser His Val Ile Leu Glu Glu Leu Arg Ser
645 650 655
Leu Ser Leu Thr Pro Ser Leu
660

<210>876
<211>120
<212>PRT
<213>Chlamydia trachomatis
<400>876

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Lys Pro Ile Thr Glu Ser Asn Thr Ile Gly Met Ile Ala Gly Arg Gly
  1               5                  10                  15
Arg Arg Arg Asp Ser Arg Leu His Asn Ser Ser Pro Lys Arg Thr Thr
            20                  25                  30
Pro Ala Asn Thr Ile Arg Leu Pro Val Thr Asn Lys Gly Ala Ala Ala
        35                  40                  45
Ser Ile Ala Asp Leu Leu Lys Ala Asn Glu Glu Asp Gln Met Lys Ala
    50                  55                  60
Phe Arg Lys Ile Lys Lys Ile Ala Met Ser Gln Gln Gly Leu Asn Thr
65                  70                  75                  80
Gln Val Arg Arg Val Gln Ala Asn Asn Asn Ala Leu Thr Ala Thr Met
                85                  90                  95
Asn Arg Val Ala Arg Ile Tyr Asp Pro Phe Tyr Arg Thr Thr Lys Leu
            100                 105                 110
Val Ala Ser Cys Ala Leu Lys Lys
        115                 120
<210>877
<211>333
<212>PRT
<213>Chlamydia trachomatis
<400>877
Ile Arg Ala Thr Arg Phe Met Val Ala Val Lys Ala Leu Leu Phe Ala
  1               5                  10                  15
Cys Thr Leu Arg Thr Cys Val Phe Lys Pro Cys Cys Asp Met Ala Ile
            20                  25                  30
Phe Leu Ile Phe Leu Asn Ala Phe Ile Trp Ser Ser Ser Phe Ala Leu
        35                  40                  45
Ser Lys Ser Ala Met Glu Ala Ala Ala Pro Leu Phe Val Thr Gly Ser
    50                  55                  60
Arg Met Val Leu Ala Gly Val Val Leu Phe Gly Leu Leu Leu Cys Lys
65                  70                  75                  80
Arg Glu Ser Leu Arg Leu Pro Arg Pro Ala Ile Met Pro Ile Val Leu
                85                  90                  95
Leu Ser Val Ile Gly Phe Tyr Leu Thr Asn Val Leu Glu Phe Ile Gly
            100                 105                 110
Leu Gln Arg Leu Ser Ser Ser Thr Ala Cys Phe Ile Tyr Gly Phe Ser
        115                 120                 125
Pro Phe Thr Ala Ala Phe Cys Ser Tyr Val Gln Leu Arg Glu Val Val
    130                 135                 140
Thr Trp Lys Lys Leu Gly Gly Leu Ser Leu Gly Leu Val Ser Tyr Leu
145                 150                 155                 160
Val Tyr Leu Leu Phe Gly Gly Ser Glu Asp Val Ala Glu Trp Gly Trp
                165                 170                 175
Gln Leu Gly Leu Pro Glu Leu Leu Leu Ile Ala Ala Thr Cys Leu Ser
            180                 185                 190
Ser Tyr Gly Trp Thr Leu Leu Arg Lys Leu Gly Arg Arg Cys Glu Ser
        195                 200                 205
Leu Ser Met Thr Ala Ile Asn Ala Tyr Ala Met Val Ile Ala Gly Val
    210                 215                 220
Leu Ser Leu Ile His Ser Ala Val Thr Glu Val Trp Asn Pro Val Pro
225                 230                 235                 240
Val Glu Asn Pro Leu Leu Phe Leu Gln Ala Ile Gly Ala Leu Val Ile
                245                 250                 255
Phe Ser Asn Leu Ile Cys Tyr Asn Leu Phe Ala Lys Leu Leu Arg Ser
            260                 265                 270
Phe Ser Ser Thr Phe Leu Ser Phe Cys Asn Leu Val Met Pro Leu Phe
        275                 280                 285
Ala Ser Phe Phe Gly Trp Leu Leu Leu Gly Glu Ser Phe Pro Pro Gly
    290                 295                 300
Leu Leu Phe Ala Val Gly Phe Met Val Leu Gly Cys Arg Leu Ile Tyr
305                 310                 315                 320
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His Glu Glu Phe Arg Gln Gly Tyr Val Leu Thr Ser Glu
                325                 330

<210>878
<211>292
<212>PRT
<213>Chlamydia trachomatis
<400>878
Pro Thr Arg Ala Ala Ser Ala Lys Ser Trp Ser Ser Ser Phe Gln Gln
  1               5                  10                  15
Gln Asn Gln Ala Ile Gln Asn Gln Val Ala Met Ala Pro Glu Ile Gly
            20                  25                  30
Asn Ala Ile Arg Thr Gln Ala Gly His Gln Ala Lys Ala Thr Glu Leu
        35                  40                  45
Gln Ala Gln Gln Ser Leu Ile Ser Gly Ile Thr Asn Ile Val Gly Phe
    50                  55                  60
Ala Val Ser Val Gly Gly Gly Ile Leu Ser Ala Ser Lys Ser Leu Gly
65                  70                  75                  80
Gly Leu Lys Ser Ala Ala Phe Thr Asn Glu Thr Ala Ser Ala Ala Thr
                85                  90                  95
Ser Ala Thr Ser Ser Leu Ala Lys Thr Ala Thr Ser Ala Leu Asp Asp
            100                 105                 110
Val Ala Gly Thr Ala Thr Ala Val Gly Ala Lys Ala Thr Ser Gly Ala
        115                 120                 125
Ala Ser Ala Ala Ser Ser Ala Ala Thr Lys Leu Thr Gln Asn Met Ala
    130                 135                 140
Glu Ser Ala Ser Lys Thr Leu Ser Gln Thr Ala Ser Lys Ser Ala Gly
145                 150                 155                 160
Gly Leu Phe Gly Gln Ala Leu Asn Thr Pro Ser Trp Ser Glu Lys Val
                165                 170                 175
Ser Arg Gly Met Asn Val Val Lys Thr Gln Gly Thr Arg Ala Thr Lys
            180                 185                 190
Phe Ala Gly Arg Ala Leu Ser Ser Ala Met Asn Ile Ser Gln Met Val
        195                 200                 205
His Gly Leu Thr Ala Gly Ile Asp Gly Ile Val Gly Gly Val Ile Gly
    210                 215                 220
Ala Gln Val Ala Gln Glu Gln Arg Met Ala Gly Met Ala Glu Ala Arg
225                 230                 235                 240
Ala Glu Glu Leu Lys Ser Leu Asn Ser Val Gln Ala Gln Tyr Ala Ser
                245                 250                 255
Gln Ala Gln Gln Leu Gln Glu Gln Ser Gln Gln Ser Phe Asn Ser Ala
            260                 265                 270
Leu Gln Thr Leu Gln Ser Ile Ser Asp Ser Ala Leu Gln Thr Thr Ala
        275                 280                 285
Ser Met Phe Asn
    290
<210>879
<211>158
<212>PRT
<213>Chlamydia trachomatis
<400>879
Trp Arg Ser Cys Val Met Thr Thr Gly Val Arg Gly Asp Asn Ala Pro
  1               5                  10                  15
Asp Pro Ser Leu Leu Ala Gln Leu Thr Gln Asn Ala Asn Ser Ala Ser
            20                  25                  30
Ala Ala Ser Thr Gly Lys Asn Gly Gln Val Ala Gly Ala Lys Gln Glu
        35                  40                  45
Asn Val Asp Ala Ser Phe Glu Asp Leu Leu Gln Asp Ala Gln Gly Thr
    50                  55                  60
Gly Gly Ser Lys Lys Ala Thr Ala Asn Gln Thr Ser Lys Ser Arg Lys
65                  70                  75                  80
Ser Glu Lys Ala Gln Ala Ser Ser Gly Thr Ser Thr Thr Thr Ser Val
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                85                  90                  95
Ala Gln Ala Ser Gln Thr Ala Thr Ala Gln Ala Val His Gly Ala Arg
            100                 105                 110
Asp Ser Gly Phe Asn Ser Asp Gly Ser Ala Thr Leu Pro Ser Pro Thr
        115                 120                 125
Gly Thr Glu Val Asn Gly Val Val Leu Arg Lys Gly Met Gly Thr Leu
    130                 135                 140
Ala Leu Met Gly Leu Ile Met Thr Tyr Ser Arg Ser Lys Cys
145                 150                 155
<210>880
<211>481
<212>PRT
<213>Chlamydia trachomatis
<400>880
Arg Gly Tyr Met Ser Leu Ser Ser Ser Ser Ser Ser Asp Ser Ser Asn
  1               5                  10                  15
Leu Lys Asn Val Leu Ser Gln Val Ile Ala Ser Thr Pro Gln Gly Val
            20                  25                  30
Pro Asn Ala Asp Lys Leu Thr Asp Asn Gln Val Lys Gln Val Gln Gln
        35                  40                  45
Thr Arg Gln Asn Arg Asp Asp Leu Ser Met Glu Ser Asp Val Ala Val
    50                  55                  60
Ala Gly Thr Ala Gly Lys Asp Arg Ala Ala Ser Ala Ser Gln Ile Glu
65                  70                  75                  80
Gly Gln Glu Leu Ile Glu Gln Gln Gly Leu Ala Ala Gly Lys Glu Thr
                85                  90                  95
Ala Ser Ala Asp Ala Thr Ser Leu Thr Gln Ser Ala Ser Lys Gly Ala
            100                 105                 110
Ser Ser Gln Gln Cys Ile Glu Asp Thr Ser Lys Ser Leu Glu Leu Ser
        115                 120                 125
Ser Leu Ser Ser Leu Ser Ser Val Asp Ala Thr His Leu Gln Glu Ile
    130                 135                 140
Gln Ser Ile Val Ser Ser Ala Met Gly Ala Thr Asn Glu Leu Ser Leu
145                 150                 155                 160
Thr Asn Leu Glu Thr Pro Gly Leu Pro Lys Pro Ser Thr Thr Pro Arg
                165                 170                 175
Gln Glu Val Met Glu Ile Ser Leu Ala Leu Ala Lys Ala Ile Thr Ala
            180                 185                 190
Leu Gly Glu Ser Thr Gln Ala Ala Leu Glu Asn Phe Gln Ser Thr Gln
        195                 200                 205
Ser Gln Ser Ala Asn Met Asn Lys Met Ser Leu Glu Ser Gln Gly Leu
    210                 215                 220
Lys Ile Asp Lys Glu Arg Glu Glu Phe Lys Lys Met Gln Glu Ile Gln
225                 230                 235                 240
Gln Lys Ser Gly Thr Asn Ser Thr Met Asp Thr Val Asn Lys Val Met
                245                 250                 255
Ile Gly Val Thr Val Ala Ile Thr Val Ile Ser Val Val Ser Ala Leu
            260                 265                 270
Phe Thr Cys Gly Leu Gly Leu Ile Gly Thr Ala Ala Ala Gly Ala Thr
        275                 280                 285
Ala Ala Thr Ala Gly Ala Thr Ala Ala Ala Thr Thr Ala Thr Ser Val
    290                 295                 300
Thr Thr Thr Val Ala Thr Gln Val Thr Met Gln Ala Val Val Gln Val
305                 310                 315                 320
Val Lys Gln Ala Ile Ile Gln Ala Val Lys Arg Ala Ile Val Gln Ala
                325                 330                 335
Ile Lys Gln Gly Ile Lys Gln Gly Ile Lys Gln Ala Ile Lys Gln Ala
            340                 345                 350
Val Lys Ala Ser Val Lys Thr Leu Ala Lys Asn Val Gly Lys Ile Phe
        355                 360                 365
Ser Ala Gly Lys Asn Ala Val Ser Lys Ser Phe Pro Lys Leu Ser Lys
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    370                 375                 380
Val Ile Asn Thr Leu Gly Ser Lys Trp Val Thr Leu Gly Val Gly Ala
385                 390                 395                 400
Leu Thr Ala Val Pro Gln Leu Val Ser Gly Ile Thr Ser Leu Gln Leu
                405                 410                 415
Ser Asp Met Gln Lys Glu Leu Ala Gln Ile Gln Lys Glu Val Gly Ala
            420                 425                 430
Leu Thr Ala Gln Ser Glu Met Met Lys Ala Phe Thr Leu Phe Trp Gln
        435                 440                 445
Gln Ala Ser Lys Ile Ala Ala Lys Gln Thr Glu Ser Pro Ser Glu Thr
    450                 455                 460
Gln Gln Gln Ala Ala Lys Thr Gly Ala Gln Ile Ala Lys Xaa Cys Pro
465                 470                 475                 480
Gln
```

<210>881
<211>120
<212>PRT
<213>Chlamydia trachomatis
<400>881

```
Thr Met Ser Lys Lys His Lys His Lys Gln Ala His Thr Ser Ser Lys
  1               5                  10                  15
Pro Lys Val Xaa Pro Ala Tyr Val Ser Lys Lys Glu Ser Pro Ala Leu
            20                  25                  30
Gln Glu Leu Gln Asn Ala Met Ile Ser Phe Ser Gln Asp Leu Pro Leu
        35                  40                  45
Ala Gln Met Phe Ser Glu Ile Gln Asp Glu Lys Gln Leu Ala Lys Met
    50                  55                  60
Met Ala Ala Leu Ser Gly Met Leu Asp Ser Leu Pro Val Glu Thr Leu
65                  70                  75                  80
Thr Lys Gly Val Phe Asp Asn Pro Lys Glu Glu Ala Gln Leu Ser Gln
                85                  90                  95
Glu Ile Ser Ser Ile Phe Leu Gly Leu Lys His Leu Thr Glu Thr Val
            100                 105                 110
Asn Lys His Ile Ala Asp Glu Lys
        115                 120
```

<210>882
<211>234
<212>PRT
<213>Chlamydia trachomatis
<400>882

```
Asn Leu Ile Leu Leu Val Val Ile Cys Tyr Phe Ile Phe Leu Gly Ile
  1               5                  10                  15
Ile Ala Met Ser Thr Pro Ser Ser Asn Asn Ser Lys Lys Pro Ser Ala
            20                  25                  30
Ser Phe Asn Lys Lys Ser Arg Ser Arg Leu Ala Glu Ile Ala Ala Gln
        35                  40                  45
Lys Lys Ala Lys Ala Glu Asp Leu Glu Gln Lys Tyr Pro Val Pro Thr
    50                  55                  60
Glu Glu Glu Thr Lys Gln Val Leu Met Asp Ile Leu Gln Gly Leu Ser
65                  70                  75                  80
Asn Gly Leu Thr Leu Gln Gln Ile Leu Gly Leu Ser Asp Val Leu Leu
                85                  90                  95
Glu Glu Ile Tyr Thr Val Ala Tyr Thr Phe Tyr Ser Gln Gly Lys Tyr
            100                 105                 110
Arg Glu Ala Ile Gly Leu Phe Gln Ile Leu Thr Ala Ser Lys Pro Gln
        115                 120                 125
Cys Tyr Lys Tyr Ile Leu Gly Leu Ser Ser Cys Tyr His Gln Leu Lys
    130                 135                 140
Met Tyr Asp Glu Ala Ala Phe Gly Phe Phe Leu Ala Phe Asp Ala Gln
145                 150                 155                 160
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Pro Glu Asn Pro Ile Pro Pro Tyr Tyr Ile Ala Asp Ser Leu Met Lys
                165                 170                 175
Leu Asn Gln Pro Glu Glu Ser Gln Asp Phe Leu Asp Ile Thr Ile Asp
            180                 185                 190
Met Cys Lys Asn Lys Pro Glu Tyr Lys Val Leu Lys Asp Arg Cys Ser
        195                 200                 205
Ile Met Lys Gln Ser Leu Asp Ala Val Leu Lys Lys Glu Lys Ser Ala
    210                 215                 220
Lys Gly Ser Glu Thr Gln Ala Ser Val Ser
225                 230
<210>883
<211>442
<212>PRT
<213>Chlamydia trachomatis
<400>883
Val Ser Leu Ser Pro Ser Arg Ile Arg Leu Leu Asp Ser Val Thr Val
  1               5                  10                  15
Asn Gln Ile Ser Ala Gly Glu Val Ile Glu Asn Ala Ala Ser Val Val
            20                  25                  30
Lys Glu Leu Ile Glu Asn Ser Leu Asp Ala Gly Ala Asp Glu Ile His
        35                  40                  45
Ile Glu Thr Leu Gly Gly Gly Arg Gly Gln Ile Val Val Arg Asp Asn
    50                  55                  60
Gly Val Gly Met Asp Pro Glu Glu Val Pro Val Ala Leu Gln Arg His
65                  70                  75                  80
Ala Thr Ser Lys Ile Ala His Phe Ala Asp Ile Phe Ser Leu Ala Ser
                85                  90                  95
Tyr Gly Phe Arg Gly Glu Ala Leu Pro Ser Ile Ala Ser Ile Ser Lys
            100                 105                 110
Met Glu Ile His Thr Ala Arg Ala Gly Gly Leu Gly Ser Lys Thr Leu
        115                 120                 125
Ile Glu Lys Gly Glu Pro Val Cys Cys Glu Pro Ala Pro Arg Gln Gln
    130                 135                 140
Gly Thr Thr Ile Ala Val His Ser Leu Phe Tyr Asn Val Pro Met Arg
145                 150                 155                 160
Gln Ser Phe Gln Lys Ser Pro Gln Met Asp Arg Leu Ala Ile Arg Arg
                165                 170                 175
Leu Leu Glu Asn Ser Val Leu Ser Ser Glu Gly Ile Gly Trp Thr Trp
            180                 185                 190
Ile Ser Glu Arg Arg Gln Glu Leu His Val Ala Lys Lys Gln Gly Phe
        195                 200                 205
Ile Glu Arg Val Ala Leu Val Leu Gly Glu Ser Phe Val Gln Glu Ala
    210                 215                 220
Phe Phe Ile Asp Lys Gln Gln Gly Asp Leu Arg Val Leu Gly Phe Leu
225                 230                 235                 240
Gly Ser Pro Asn Gln His Arg Ser Thr Arg Gln Gly Gln Arg Leu Phe
                245                 250                 255
Ile Asn Asn Arg Ala Val Glu Ser Ser Phe Ile Ser Lys Lys Val Ala
            260                 265                 270
Glu Ala Tyr Ala Trp Met Ile Pro Ala Gln Arg Tyr Pro Ile Phe Val
        275                 280                 285
Leu Lys Leu Phe Leu Pro Pro Met Trp Cys Asp Phe Asn Val His Pro
    290                 295                 300
Gln Lys Thr Glu Val Arg Leu Leu Gln Glu Gly Gln Ile Ser Asn Leu
305                 310                 315                 320
Leu Val Glu Ala Ile Ser Glu Ala Leu Leu Arg Arg Ser Ser Ser Leu
                325                 330                 335
Glu Glu Ile Val Leu Lys Val Pro Thr Glu Lys Ile Pro Ile Glu Asn
            340                 345                 350
Glu Gly Ile Ser Val Pro Ser Ile Arg Pro Ala Ile Val Ser Ala Pro
        355                 360                 365
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Leu Ser Cys Pro Thr Phe Ser Gln Gln Pro Tyr Leu Lys Thr Glu Met
370 375 380
Ala Thr Ile Val Ser Arg Asp Ser Ala Ser Ser Ser Leu Ser Val Val
385 390 395 400
Glu Lys Val Arg Phe Leu Thr Ser Leu Gly Lys Val Leu Leu Val Glu
405 410 415
Asp Ser Glu Gly Val His Val Val Phe Val Gln Leu Arg Val Asn Ile
420 425 430
Cys Phe Met Phe Leu Tyr Tyr Pro Ser Val
435 440

<210>884
<211>101
<212>PRT
<213>Chlamydia trachomatis
<400>884
Leu Ser Trp Lys Gln Thr Phe Tyr Arg Cys Gly Leu Glu Ala Leu Thr
1 5 10 15
Ala Leu Gly Ile Glu Leu Ser Arg Ile Ser Pro Asp Ser Phe Ala Ile
20 25 30
Glu Ser Ala Pro Pro Phe Ile Gln Glu Glu Glu Leu Lys Glu Trp Ile
35 40 45
Val Ala Leu Ala Gln Glu Gly Ala Leu His Val Gly Glu Ser Phe Glu
50 55 60
Gln Leu Val Glu Asn Thr Val Gln Lys Leu Val Phe Ser Arg Asn Ala
65 70 75 80
Arg Ala Phe Asp Tyr Ala Trp Leu Asp Ile Leu Trp Lys Leu Gly Lys
85 90 95
Pro Glu Lys Ser Val
100

<210>885
<211>356
<212>PRT
<213>Chlamydia trachomatis
<400>885
Met Asn Gln Asn Pro Ile Lys Arg Leu Gln Asp Ser Leu Val Glu Arg
1 5 10 15
Ala Leu Asp Ala Phe Leu Ile Glu Lys Asp Glu Asp Ile Ser Tyr Phe
20 25 30
Leu Gln Asp Gln Ala Arg Ser Gly Val Leu Leu Ile Thr Arg Asp Glu
35 40 45
Ala Val Leu Phe Val Ser Pro Leu Asp Lys Asp Leu Tyr Ala Arg Ile
50 55 60
Gln Asp Val Val Leu Val Ser Tyr Ser Lys Ser Val Asp Gln Glu Leu
65 70 75 80
Gly Ser Tyr Ile Glu Asn Thr Gly Leu Lys Thr Ile Gly Phe Asp Ser
85 90 95
Glu Tyr Thr Pro Tyr Gly Ile Ala Gln Lys Arg Met Asn Ser Gly Tyr
100 105 110
Ala Phe Ser Pro Gln Ser Leu Val Ala Glu Lys Leu Arg Cys Val Lys
115 120 125
Ser Thr Glu Glu Ile Gln Lys Met Thr Arg Ala Ala Glu Ile Gly Ser
130 135 140
Ala Gly Tyr Asp Phe Val Leu Ala Ala Leu Arg Pro Gly Ile Thr Glu
145 150 155 160
Lys Glu Leu Val Arg Met Leu His Val Phe Trp Ala Asn Leu Gly Ile
165 170 175
Glu Lys Val Ser Phe Pro Pro Ile Ile Ala Phe Gly Glu Asn Ala Ala
180 185 190
Phe Pro His Ala Ile Pro Thr Asn Arg Ser Leu Lys Lys Gly Asp Val
195 200 205
Val Leu Ile Asp Ile Gly Val Cys Tyr Glu Gly Tyr Cys Ser Asp Met

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    210                 215                 220
Thr Arg Thr Val Ala Phe Gly Ala Ala Pro Glu Gln Gln Leu Leu Asp
225                 230                 235                 240
Gly Tyr Val Ala Val Ala Glu Ala Gln Arg Ala Ala Ile Glu Phe Cys
                245                 250                 255
Arg Ala Gly Val Pro Cys Arg Asp Val His Lys Glu Ala Val Arg Ile
            260                 265                 270
Leu Arg Ala His Gly Met Glu Lys Ala Phe Ile His Gly Leu Gly His
        275                 280                 285
Gly Val Gly Arg Glu Val His Glu Tyr Pro Arg Leu Ser Pro Phe Ser
    290                 295                 300
Asp Ala Thr Leu Gln Leu Asn Met Ala Val Thr Val Glu Pro Gly Val
305                 310                 315                 320
Tyr Phe Pro Gly Val Gly Gly Ile Arg Ile Glu Asp Thr Ile Val Ile
                325                 330                 335
Gly Val Asn Glu Asn Leu Asn Leu Thr Asn Arg Lys Val Ser Ser Glu
            340                 345                 350
Ile Ile Ile Ile
        355
<210>886
<211>427
<212>PRT
<213>Chlamydia trachomatis
<400>886
Phe Phe Phe Ser Asn Gln Leu Leu Tyr Thr Ile Leu Phe Cys Phe Ser
  1               5                  10                  15
Val Val Met Arg Gln Leu His Phe Phe Phe Tyr Gln Trp Ile Arg Gly
             20                  25                  30
Ala Ala Leu Ile Gly Ala Ile Ala Gly Val Cys Ser Pro Leu Thr Ala
         35                  40                  45
Glu Glu Lys Gln Pro Ala Cys Ser Gly Ala Trp Ala Leu Gln Asp Phe
     50                  55                  60
Ser Ile Glu Glu Glu Leu Pro Asp Leu Arg Asn Gln Phe Val Phe Leu
 65                  70                  75                  80
Gly Cys Asn Lys Arg Pro Asp Ala Arg Ser Gly Lys Phe Phe Leu Glu
                 85                  90                  95
Leu Ala Thr Thr Asn Ala Ile Gln Glu Val Ser Leu Gly Glu Lys Val
            100                 105                 110
Phe Leu Arg Gln Gly Pro Asp Glu Glu Thr Leu Val Phe Ser Ala Glu
        115                 120                 125
Pro Thr Pro Leu Trp Leu Glu Cys Arg Pro Ser Ser Asp Gly Arg Ser
    130                 135                 140
Leu Asp Val Val Val Arg Met Lys Gly Ala Leu Gly Gly Ala Val Ser
145                 150                 155                 160
Ser Pro Lys Glu Arg Ala His Phe Ser Leu Ser Met Ala Pro Arg Cys
                165                 170                 175
Ser Gln Thr Trp Glu Ile Gly Gly Met Arg Val Glu Pro Ser Ile Ala
            180                 185                 190
Val Lys Gln Arg Ile Arg Cys Val Gly Gly Asp Lys Phe Leu Leu Met
        195                 200                 205
His Gly Gly Ala Asp Tyr Val Ile Gln Ala Ala Lys Glu Arg Val Asp
    210                 215                 220
Phe Glu Ser Leu Ser Gly Glu Ala Tyr Ser Gln Tyr Leu Ala Val Gly
225                 230                 235                 240
Asp Val Leu Leu Trp Asp Gln Asp Arg Trp Val Pro Tyr Lys Thr Phe
                245                 250                 255
Gln Gly Asp Gly Thr Arg Val Pro Leu Leu Glu Val Lys Arg Leu Asp
            260                 265                 270
Asp Arg Met Met Val Ile Glu Leu Trp Ser Ile Asp Gly Leu Met Ser
        275                 280                 285
Gln Gln Ile Thr Leu Val Lys Gln Val Ser Ser Pro Ile Glu Ile Ala
```

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```
    290                 295                 300
Glu Leu Val Lys Glu Phe Ser Phe Val Gly Met Arg Thr Trp Ser Arg
305                 310                 315                 320
Pro Ile Ile Thr Ala Gly Lys Asp Arg Leu Val Leu Ser Ala Asp Asp
                325                 330                 335
Trp Val Ile His Thr Gly Glu Arg Trp Glu Arg Val Thr Ser Lys Arg
            340                 345                 350
Gln Leu Glu Asp Tyr Leu Ser Gly Lys Leu Arg Ser Pro Leu Leu Val
        355                 360                 365
Phe Glu Arg Ile Asp Lys Glu Asp Gly Glu Phe Val Phe Lys Gly His
    370                 375                 380
Val Phe Asn Thr Gln Arg Thr Val Val Glu Thr Ile Ser Leu Pro Leu
385                 390                 395                 400
Lys Gln Val Leu Glu Thr Val Ala Gln Ser His Leu Gly Gln Glu Ser
                405                 410                 415
Gly Thr Lys Asn Ser Arg Ile Gly Gly Gly Ser
            420                 425
```

<210>887
<211>88
<212>PRT
<213>Chlamydia trachomatis

<400>887

```
Val Lys Asn Ile Leu Gly Tyr Gly Phe Leu Gly Thr Phe Cys Leu Gly
  1                 5                  10                  15
Ser Leu Thr Val Pro Ser Phe Ser Ile Thr Ile Thr Glu Lys Leu Ala
             20                  25                  30
Ser Leu Glu Gly Lys Thr Glu Ser Leu Ala Pro Phe Ser His Ile Ser
         35                  40                  45
Ser Phe Asn Ala Glu Leu Lys Glu Ala Asn Asp Val Leu Lys Ser Leu
     50                  55                  60
Tyr Glu Glu Ala Leu Ser Leu Arg Ser Arg Gly Glu Thr Ser Gln Ala
 65                  70                  75                  80
Val Trp Asp Glu Leu Arg Thr Asp
                 85
```

<210>888
<211>701
<212>PRT
<213>Chlamydia trachomatis

<400>888

```
Cys Ser Gln Ile Phe Ile Arg Arg Ser Phe Val Ser Pro Phe Ser Arg
  1                 5                  10                  15
Arg Asp Phe Ala Gly Gly Met Gly Arg Val Ala Asn Arg Leu Ile Gly
             20                  25                  30
Ala Lys Gln Arg Ile Arg Ser Leu Glu Asp Leu Trp Ser Val Glu Val
         35                  40                  45
Ala Glu Arg Gly Gly Asp Pro Glu Asp Tyr Ala Leu Trp Asn His Pro
     50                  55                  60
Glu Thr Thr Ile Tyr Asn Leu Val Ser Asp Tyr Gly Asp Glu Gln Ser
 65                  70                  75                  80
Ile Tyr Val Ile Pro Gln Asn Val Gly Ala Met Arg Ile Thr Ala Met
                 85                  90                  95
Ser Lys Leu Val Val Pro Lys Glu Gly Phe Glu Glu Cys Leu Ser Leu
            100                 105                 110
Leu Leu Met Arg Leu Gly Ile Gly Ile Arg Gln Val Ser Pro Trp Ile
        115                 120                 125
Lys Glu Leu Tyr Leu Thr Asn Arg Glu Glu Ser Gly Val Leu Gly Ile
    130                 135                 140
Phe Gly Ser Arg Gln Glu Leu Asp Ser Leu Pro Met Thr Ala His Ile
145                 150                 155                 160
Ala Phe Val Leu Ser Ser Lys Asn Leu Asp Ala Arg Ala Asp Val Gln
                165                 170                 175
```

Ala Leu Arg Lys Phe Ala Asn Ser Asp Thr Met Leu Ile Asp Phe Ile
180 185 190
Gly Gly Lys Val Trp Leu Phe Gly Ala Val Ser Glu Ile Thr Glu Leu
195 200 205
Leu Lys Ile Tyr Glu Phe Leu Gln Ser His Asn Ile Arg Glu Glu His
210 215 220
Xaa Ile Val Ser Leu Ser Lys Ile Glu Pro Ser Glu Met Leu Xaa Ile
225 230 235 240
Leu Lys Ala Ala Phe Arg Glu Asp Leu Ala Lys Glu Gly Glu Asp Ser
245 250 255
Ser Gly Val Gly Leu Lys Val Val Pro Leu Gln Asn His Gly Arg Ser
260 265 270
Leu Phe Leu Ser Gly Ala Leu Pro Ile Val Gln Lys Ala Ile Asp Leu
275 280 285
Ile Arg Glu Leu Glu Glu Gly Ile Glu Ser Pro Thr Asp Lys Thr Val
290 295 300
Phe Trp Tyr His Val Lys His Ser Asp Pro Gln Glu Leu Ala Ala Leu
305 310 315 320
Leu Ser Gln Val His Asp Ile Phe Ser Asn Gly Ala Ser Gly Ala Ser
325 330 335
Ser Ser Cys Asp Thr Gly Val Val Ser Ser Lys Ala Gly Ser Ser Ser
340 345 350
Asn Gly Leu Gly Val His Ile Asp Thr Ser Leu Arg Ser Ser Val Lys
355 360 365
Glu Gly Ser Ala Lys Tyr Gly Ser Phe Ile Ala Asp Ser Lys Thr Gly
370 375 380
Thr Leu Ile Met Val Ile Glu Lys Glu Ala Leu Pro Lys Ile Lys Met
385 390 395 400
Leu Leu Lys Lys Leu Asp Val Pro Lys Lys Met Val Arg Ile Glu Val
405 410 415
Leu Leu Phe Glu Arg Lys Leu Ser Asn Gln Arg Lys Ser Gly Leu Asn
420 425 430
Leu Leu Arg Leu Gly Glu Glu Val Cys Lys Gln Gly Thr Gln Ala Val
435 440 445
Ser Trp Ala Ser Gly Gly Ile Leu Glu Phe Leu Phe Lys Gly Gly Ala
450 455 460
Lys Gly Ile Val Pro Ser Tyr Asp Phe Ala Tyr Gln Phe Leu Met Ala
465 470 475 480
Gln Glu Asp Val Arg Ile Asn Ala Ser Pro Ser Val Val Thr Met Asn
485 490 495
Gln Thr Pro Ala Arg Ile Ala Ile Val Glu Glu Met Ser Ile Val Val
500 505 510
Ser Ser Asp Lys Asp Lys Ala Gln Tyr Asn Arg Ala Gln Tyr Gly Ile
515 520 525
Met Ile Lys Ile Leu Pro Val Ile Asn Ile Gly Glu Glu Asp Gly Lys
530 535 540
Ser Phe Ile Thr Leu Glu Thr Asp Ile Thr Phe Asp Ser Thr Gly Arg
545 550 555 560
Asn His Ala Asp Arg Pro Asp Val Thr Arg Arg Asn Ile Thr Asn Lys
565 570 575
Val Arg Ile Gln Asp Gly Glu Thr Val Ile Ile Gly Gly Leu Arg Cys
580 585 590
Asn Gln Thr Met Asp Ser Arg Asp Gly Ile Pro Phe Leu Gly Glu Leu
595 600 605
Pro Gly Ile Gly Lys Leu Phe Gly Met Asp Ser Ala Ser Asp Ser Gln
610 615 620
Thr Glu Met Phe Met Phe Ile Thr Pro Lys Ile Leu Asp Asn Pro Ser
625 630 635 640
Glu Thr Glu Glu Lys Leu Glu Cys Ala Phe Leu Ala Ala Arg Pro Gly
645 650 655
Glu Asn Asp Asp Phe Leu Arg Ala Leu Val Ala Gly Gln Gln Ala Ala

660 665 670
Lys Gln Ala Ile Glu Arg Lys Glu Ser Thr Val Trp Gly Glu Glu Ser
675 680 685
Ser Gly Ser Arg Gly Arg Val Glu Tyr Asp Gly Arg Glu
690 695 700

<210>889
<211>428
<212>PRT
<213>Chlamydia trachomatis
<400>889

Lys Glu Lys Ser Leu Pro Tyr Gly Glu Lys Asn Pro Pro Ala Leu Glu
1 5 10 15
Glu Gly Trp Ser Met Met Asp Gly Asn Lys Gly Thr Met Gln Asp Leu
20 25 30
Leu Asp Arg Leu Pro Tyr Ser Phe Leu Lys Lys Asn Tyr Leu Leu Pro
35 40 45
Val Glu Asp Leu Gly Asp Lys Ile Val Phe Ala Arg His Leu Lys Lys
50 55 60
Thr Pro Leu Glu Ala Leu Asp Glu Val Arg Leu Ile Thr Gln Lys Pro
65 70 75 80
Leu Ser Leu Val Ser Lys Glu Glu Ala Glu Ile Ile His Gly Leu Gln
85 90 95
Lys Leu Tyr Ser Asp Lys Asp Gly Lys Ala Ser Glu Met Leu Gln Ser
100 105 110
Met Gln Glu Ala Val Val Pro Glu Ser Glu Ser Asp Thr Thr Glu Leu
115 120 125
Leu Glu Asn Gln Glu Asn Ser Ala Pro Val Val Arg Leu Leu Asn Leu
130 135 140
Ile Leu Lys Glu Ala Ile Glu Glu Arg Ala Ser Asp Ile His Phe Asp
145 150 155 160
Pro Val Glu Asp Leu Leu Arg Ile Arg Tyr Arg Ile Asp Gly Val Leu
165 170 175
His Asp Arg His Ala Pro Pro Asn His Leu Arg Ala Ala Leu Ile Thr
180 185 190
Arg Ile Lys Val Leu Thr Lys Leu Asp Ile Ala Glu His Arg Leu Pro
195 200 205
Gln Asp Gly Arg Ile Lys Leu Gln Leu Gly Gly Gln Glu Ile Asp Met
210 215 220
Arg Val Ser Thr Val Pro Val Ile His Gly Glu Arg Val Val Leu Arg
225 230 235 240
Ile Leu Asp Lys Arg Asn Val Ile Leu Asp Ile Arg Gly Leu Cys Met
245 250 255
Pro Pro Lys Met Glu Thr Ser Phe Arg Lys Ala Ile Gly Val Pro Glu
260 265 270
Gly Ile Leu Leu Val Thr Gly Pro Thr Gly Ser Gly Lys Thr Thr Thr
275 280 285
Leu Tyr Ser Val Ile Gln His Leu Ser Gly Pro Phe Thr Asn Ile Met
290 295 300
Thr Ile Glu Asp Pro Pro Glu Tyr Lys Leu Pro Gly Val Ala Gln Ile
305 310 315 320
Ala Val Lys Pro Lys Ile Gly Leu Thr Phe Ser Lys Gly Leu Arg His
325 330 335
Leu Leu Arg Gln Asp Pro Asp Val Leu Met Val Gly Glu Ile Arg Asp
340 345 350
Gln Glu Thr Ala Glu Ile Ala Ile Gln Ala Ala Leu Thr Gly His Leu
355 360 365
Val Val Ser Thr Leu His Thr Asn Asp Ala Val Ser Ala Ile Pro Arg
370 375 380
Leu Leu Asp Met Gly Val Glu Pro Tyr Leu Leu Ser Ala Thr Met Ile
385 390 395 400
Gly Leu Ser Leu Asn Asp Ser Ser Val Glu Phe Val Arg Ile Ala Lys

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405 410 415
Asn Ser Val Trp Pro Met Cys Lys Asn Arg Leu Tyr
420 425

<210>890
<211>144
<212>PRT
<213>Chlamydia trachomatis
<400>890
Cys Cys Phe Cys Asn Pro Ala Ser Phe Arg His Gly Ser Arg Ala Leu
1 5 10 15
Phe Ile Ile Arg Asn Asn Asp Arg Ala Val Ala Gln Arg Leu Val Arg
20 25 30
Arg Ile Cys Thr His Cys Lys Glu Phe Cys Val Ala Asp Val Gln Glu
35 40 45
Gln Ala Leu Leu Arg Ala Leu Gly Lys Asp Pro Phe Ala Pro Leu Cys
50 55 60
Lys Gly Arg Gly Cys Ser Gln Cys Phe Arg Ser Gly Tyr Lys Gly Arg
65 70 75 80
Gln Gly Ile Tyr Glu Phe Val Asp Val Thr Thr Thr Leu Arg Ser Glu
85 90 95
Ile Ala Leu Gly Arg Pro Tyr His Ile Leu Arg Gly Val Ala Glu Arg
100 105 110
Glu Gly Tyr Cys Pro Leu Leu Glu His Gly Val Glu Leu Ala Leu Ala
115 120 125
Gly Glu Thr Thr Leu Ser Glu Val Leu Arg Val Ala Lys Arg Ser Glu
130 135 140

<210>891
<211>381
<212>PRT
<213>Chlamydia trachomatis
<400>891
Leu Pro Ser Ala Arg Ala Trp Ser Arg Thr Gly Ser Cys Trp Gly Asp
1 5 10 15
Asn Pro Phe Arg Ser Phe Ala Cys Gly Lys Thr Val Arg Ile Ala Gly
20 25 30
Gly Asp Met Ala Arg Phe Leu Cys Thr Tyr Leu Asp Gln Ser Glu Lys
35 40 45
Lys Arg Arg Ser Phe Val Glu Ala Phe His Gln Arg Glu Ala Arg Glu
50 55 60
Leu Leu Ala Ala Gln Gly Ala Arg Ile Leu Asp Ile Arg Lys Val Arg
65 70 75 80
Glu Arg Asn Tyr Arg Val Thr Thr Thr Glu Leu Val Ile Phe Thr Lys
85 90 95
Gln Leu Ala Leu Leu Leu Arg Ser Gly Ile Ser Leu Tyr Asp Ala Leu
100 105 110
Thr Ser Leu Arg Asp Gln Tyr Gln Gly His Ala Leu Ala Gly Val Leu
115 120 125
Thr Ser Leu Met Glu Ala Leu Arg Ser Gly Gly Val Phe Ser Glu Ala
130 135 140
Leu Ala Arg Leu Pro His Ile Phe Asp Ser Phe Tyr Gln Asn Ser Val
145 150 155 160
Arg Ser Gly Glu Ser Ile Gly Asn Leu Glu Gly Ala Leu Met Asn Ile
165 170 175
Ile Lys Val Leu Glu Glu Lys Glu Lys Leu Ser Lys Ser Leu Ala Ala
180 185 190
Ala Leu Ser Tyr Pro Ala Ile Leu Leu Val Phe Ser Cys Ala Val Val
195 200 205
Val Phe Phe Leu Ile Gly Val Ile Pro Thr Leu Lys Glu Thr Phe Glu
210 215 220
Asp Met Glu Met Thr Arg Leu Thr Lys Ala Val Phe Ser Cys Ser Thr
225 230 235 240

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Trp Phe Cys Arg Tyr Lys Phe Leu Val Leu Leu Gly Gly Ile Gly Gly
                245                 250                 255
Ala Ile Ser Leu Arg Ile Val Trp Lys Lys Arg Ile Gly Lys Arg Thr
            260                 265                 270
Leu Glu Ala Ile Ile Lys Lys Ile Pro Ile Leu Arg Ser Leu Val Ile
        275                 280                 285
Lys Ile Gly Phe Cys Arg Phe Cys Ser Val Thr Ser Ala Val Leu Gln
    290                 295                 300
Gly Gly Gly Asn Leu Ile Glu Ala Leu Thr Leu Gly Cys Glu Ala Val
305                 310                 315                 320
Ser Gln Asp Phe Leu Arg Glu Glu Leu Gln Glu Val Ile Gln Ala Val
                325                 330                 335
Val Arg Gly Gly Ser Leu Ser Arg Glu Leu Ser His Arg Thr Trp Thr
            340                 345                 350
Pro Lys Leu Val Ile Gly Met Val Ala Leu Gly Glu Glu Ser Gly Asp
        355                 360                 365
Leu Ala Val Val Phe Ala His Val Ala Gln Ile Tyr Arg
    370                 375                 380
<210>892
<211>151
<212>PRT
<213>Chlamydia trachomatis
<400>892
Asp Ser Ser Arg Leu Lys Asp Pro Pro Arg Thr Thr Ala Trp Ile Thr
  1                 5                  10                  15
Ser Cys Ser Ser Ser Arg Lys Lys Ser Cys Asp Thr Ala Ser His Pro
             20                  25                  30
Asn Val Arg Ala Ser Ile Lys Phe Pro Pro Pro Cys Lys Thr Ala Asp
         35                  40                  45
Val Thr Glu Gln Asn Arg Gln Asn Pro Ile Leu Ile Thr Arg Leu Arg
     50                  55                  60
Lys Ile Gly Ile Phe Leu Ile Ile Ala Ser Arg Val Leu Phe Pro Ile
 65                  70                  75                  80
Arg Phe Phe Gln Thr Met Arg Arg Asp Ile Ala Pro Pro Ile Pro Pro
                 85                  90                  95
Ser Lys Thr Arg Asn Leu Tyr Leu Gln Asn His Val Leu His Glu Lys
            100                 105                 110
Thr Ala Phe Val Ser Leu Val Ile Ser Ile Ser Ser Lys Val Ser Phe
        115                 120                 125
Asn Val Gly Met Thr Pro Ile Arg Lys Asn Thr Thr Thr Ala Gln Glu
    130                 135                 140
Asn Thr Asn Lys Ile Ala Gly
145                 150
<210>893
<211>137
<212>PRT
<213>Chlamydia trachomatis
<400>893
Gln Ala Val Phe Lys Arg Phe Asn Tyr Arg Arg Glu Thr Val Lys Lys
  1                 5                  10                  15
Thr Lys Lys Arg Lys Gln Ser Ile Thr Leu Val Glu Met Met Val Val
             20                  25                  30
Ile Thr Leu Ile Gly Ile Ile Gly Gly Ala Leu Ala Phe Asn Met Arg
         35                  40                  45
Gly Ser Leu Gln Lys Gly Lys Ile Phe Gln Thr Glu Gln Asn Cys Ala
     50                  55                  60
Arg Val Tyr Asp Val Leu Met Met Glu Tyr Ala Ser Gly Asn Leu Ser
 65                  70                  75                  80
Leu Lys Glu Val Ile Ala Asn Lys Glu Ala Ile Leu Glu Asp Ser Ala
                 85                  90                  95
Trp Cys Lys Glu Ile Lys Lys Leu Leu Lys Asp Ala Trp Gly Glu Asp
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```
            100                 105                 110
Leu Leu Val Lys Met Asn Asp Lys Gly Asp Asp Ile Val Val Phe Ser
        115                 120                 125
Lys Lys Val Arg Asn Glu Gln Arg Gly
    130                 135
<210>894
<211>203
<212>PRT
<213>Chlamydia trachomatis
<400>894
Arg Arg Arg Gln Ala Phe Met Phe Gly Arg Arg Tyr Gly Gly Leu Ile
  1               5                  10                  15
Pro Trp Pro Glu Lys Gly Ser Arg Cys Thr Glu Val Phe Met Phe Arg
            20                  25                  30
Lys Ile Lys Lys Lys Arg Ala Phe Leu Leu Ser Glu Leu Leu Ile Ala
        35                  40                  45
Cys Val Leu Ile Ser Leu Leu Leu Gly Ser Leu Gly Tyr Trp Thr Arg
    50                  55                  60
Arg Ile Trp Ile Ser His Lys Glu Lys Glu His Val Tyr Arg Ile Phe
65                  70                  75                  80
Leu Asn Glu Ser Lys Thr Tyr Arg Phe Leu Arg Gly Thr Phe Leu Ser
                85                  90                  95
Thr Ile Ala Met Glu Ala Gln Glu Glu Leu Val Phe Ser Phe Asp Arg
            100                 105                 110
Gly Val Tyr Val Asp Pro His Leu Ala Gly Val Val Gln Gly Thr Leu
        115                 120                 125
His Tyr Asp Pro Ile Thr Gln Glu Ile Ser Leu Ile Val Ala Ser Glu
    130                 135                 140
Arg Glu Glu Ala Arg Gln Glu Lys Ile Ser Leu Trp Thr His Val Leu
145                 150                 155                 160
Ser Met Glu Trp Lys Val Leu Arg Tyr Gln Gly Leu Gly Glu Gly Pro
                165                 170                 175
Asp Arg Val Tyr Leu Thr Leu Val Arg Lys Val Gly Ala Leu Pro Pro
            180                 185                 190
Arg Thr Leu Ser Tyr Ile Phe Ala Val Gly Arg
        195                 200
<210>895
<211>203
<212>PRT
<213>Chlamydia trachomatis
<400>895
Val Ala Thr Arg Thr Val Cys Ala Val Arg Ala His Ser Ser Arg Cys
  1               5                  10                  15
Gly Val Pro Gly Lys Lys Ala Leu Pro Ala Gln Lys Glu Glu Asn Asn
            20                  25                  30
Ser Pro Thr Pro Lys Pro Gly Ser Glu Trp Pro Glu Asn Gly Ser Pro
        35                  40                  45
Pro Glu Lys Glu Thr Arg Trp Val Glu Lys Lys Pro Lys Ser Asn Lys
    50                  55                  60
Thr Thr Arg Ser Leu Leu His Phe Leu Asn Tyr Glu Glu Lys Asn Thr
65                  70                  75                  80
Asn Gln Gly Arg Leu Asn Leu Leu Phe Thr Asp Pro Val Ile Leu Gln
                85                  90                  95
Ala Phe Ile Asn Asn Ser Lys Ala Tyr Ser Glu Leu Glu Arg Val Arg
            100                 105                 110
Gln Glu Val Trp Glu Ser Ala Arg Gln Gln Glu Leu Ala Ile Lys Ala
        115                 120                 125
Tyr Gly Gln Ala Ala Ala Leu Glu Ile Phe Lys Thr Arg Thr Asp Phe
    130                 135                 140
Arg Thr Glu Leu Gln Asp Lys Thr Gln Val Ile Leu His Arg Tyr Asp
145                 150                 155                 160
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Leu Leu Ser Leu Leu Asn Lys Lys Val Phe Asp Tyr Thr Leu Gly Thr
165 170 175
Ala Gly Asp Tyr Ile Phe Val Val Asp Pro Glu Asn Glu Gly Val Asn
180 185 190
Arg Ser Arg Cys Val Ser Arg Arg Lys Thr Asn
195 200

<210>896
<211>291
<212>PRT
<213>Chlamydia trachomatis
<400>896
Ile Ala Met Ala Thr Leu Pro Glu Val Leu Ser Gly Leu Gly Ser Ser
1 5 10 15
Tyr Ile Asp Tyr Ile Phe Gln Lys Pro Ala Asp Tyr Val Trp Thr Val
20 25 30
Phe Leu Leu Leu Ala Ala Arg Ile Leu Ser Met Leu Ser Ile Ile Pro
35 40 45
Phe Leu Gly Ala Lys Leu Phe Pro Ser Pro Ile Lys Ile Gly Ile Ala
50 55 60
Leu Ser Trp Met Gly Leu Leu Leu Pro Gln Val Ile Gln Asp Ser Thr
65 70 75 80
Ile Val His Tyr Gln Asp Leu Asp Ile Phe Tyr Ile Leu Leu Ile Lys
85 90 95
Glu Ile Leu Ile Gly Val Leu Ile Gly Phe Leu Phe Ser Phe Pro Phe
100 105 110
Tyr Ala Ala Gln Ser Ala Gly Ser Phe Ile Thr Asn Gln Gln Gly Ile
115 120 125
Gln Gly Leu Glu Gly Ala Thr Ser Leu Val Ser Ile Glu Gln Thr Ser
130 135 140
Pro His Gly Ile Phe Tyr His Tyr Phe Val Thr Ile Val Phe Trp Leu
145 150 155 160
Ala Gly Gly His Arg Ile Ile Leu Ser Val Leu Leu Gln Ser Leu Glu
165 170 175
Ile Ile Pro Leu His Ala Val Phe Pro Glu Ser Met Met Ser Leu Arg
180 185 190
Ala Pro Met Trp Ile Ala Ile Leu Lys Met Cys Gln Leu Cys Leu Ile
195 200 205
Met Thr Ile Gln Leu Ser Ala Pro Ala Ala Val Ala Met Leu Met Ser
210 215 220
Asp Leu Phe Leu Gly Ile Ile Asn Arg Met Ala Pro Gln Val Gln Val
225 230 235 240
Ile Tyr Leu Leu Ser Ala Leu Lys Ala Phe Met Gly Leu Leu Phe Leu
245 250 255
Thr Leu Ala Trp Trp Phe Ile Val Lys Gln Ile Asp Tyr Phe Thr Leu
260 265 270
Ala Trp Phe Lys Glu Ile Pro Thr Met Leu Phe Gly Ala His Pro Pro
275 280 285
Lys Val Leu
290

<210>897
<211>99
<212>PRT
<213>Chlamydia trachomatis
<400>897
Ile Arg Asp Phe Pro Met Leu Met Leu Ala Thr Ser Phe Lys Ser Ile
1 5 10 15
Leu Phe Glu Tyr Ser Tyr Glu Ala Leu Leu Leu Ile Leu Ile Ile Ser
20 25 30
Ala Pro Pro Ile Ile Leu Ala Ser Val Val Gly Ile Met Val Ala Ile
35 40 45
Phe Gln Ala Ala Thr Gln Ile Gln Glu Gln Thr Phe Ala Phe Ala Ile

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```
     50                  55                  60
Lys Leu Val Val Ile Phe Gly Thr Leu Met Ile Thr Gly Gly Trp Leu
 65                  70                  75                  80
Cys Ser Met Ile Leu Arg Phe Ala Ala Gln Ile Phe Gln Asn Phe Tyr
                 85                  90                  95
Lys Trp Lys

<210>898
<211>309
<212>PRT
<213>Chlamydia trachomatis
<400>898
Leu Asp Phe Met Arg Leu Ile Val Arg Ile Phe Phe Phe Leu Cys Ile
  1               5                  10                  15
Leu Ser Ala Pro Tyr Ser Phe Ala Ser Thr Cys Ser Ala Ala Gln Gly
            20                  25                  30
Ala Ser Ser Cys Leu Pro Cys Ala Thr Ala Pro Gln Gln Glu Leu Pro
        35                  40                  45
Ala Ser Pro Glu Lys Thr Glu Lys Pro Phe Arg Cys Pro Ser Tyr Arg
     50                  55                  60
Pro Thr Val Glu Ala Gln His Leu Leu Pro Pro Gln Glu Asp Leu Ser
 65                  70                  75                  80
Ser Gly Ala Phe Ser Glu Thr Tyr Pro Asp Leu Thr Thr Gln Ala Val
                 85                  90                  95
Ile Leu Leu Phe Leu Ala Leu Ser Pro Phe Leu Val Met Leu Leu Thr
            100                 105                 110
Ser Tyr Leu Lys Ile Ile Ile Thr Leu Val Leu Leu Arg Asn Ala Leu
        115                 120                 125
Gly Val Gln Gln Thr Pro Pro Ser Gln Val Leu Asn Gly Ile Ala Leu
    130                 135                 140
Ile Leu Ser Ile Tyr Val Met Phe Pro Thr Gly Val Ala Met Tyr His
145                 150                 155                 160
Asp Ala Lys Lys Gly Ile Glu Ser Ser Ala Val Pro Arg Asp Leu Phe
                165                 170                 175
Ser Ala Glu Gly Ala Glu Thr Val Phe Val Ala Leu Asn Lys Ser Lys
            180                 185                 190
Glu Pro Leu Arg Ser Phe Leu Ile Lys Asn Thr Pro Lys Pro Gln Ile
        195                 200                 205
Gln Ser Phe Tyr Lys Ile Ser Gln Lys Thr Phe Pro Pro Glu Leu Arg
    210                 215                 220
Gln Gln Leu Thr Pro Ser Asp Phe Met Ile Ile Ile Pro Ala Phe Ile
225                 230                 235                 240
Met Gly Gln Ile Lys Asn Ala Phe Glu Ile Gly Val Leu Ile Tyr Leu
                245                 250                 255
Pro Phe Phe Val Ile Asp Leu Val Thr Ala Asn Val Leu Val Ala Met
            260                 265                 270
Gln Met Met Met Leu Ser Pro Leu Ser Ile Ser Leu Pro Leu Lys Leu
        275                 280                 285
Leu Leu Val Val Met Val Asp Gly Trp Thr Leu Leu Leu Glu Gly Leu
    290                 295                 300
Met Ile Ser Phe Lys
305
<210>899
<211>93
<212>PRT
<213>Chlamydia trachomatis
<400>899
Gln Val Leu Ser Phe Tyr Arg Trp Ser Ile Arg Trp Thr Thr Lys Arg
  1               5                  10                  15
Leu Phe Ser Phe Phe Trp Arg Cys Trp Lys Phe Leu Leu Arg Ser Gly
            20                  25                  30
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```
Arg Ala Arg Lys Ala Arg Arg Gly Ala Leu Cys Cys Gly Thr Ser Thr
            35                  40                  45
Gly Glu Ala Ile Gly Ser Ala Lys Asn Ala Glu Lys Glu Glu Asn Ser
        50                  55                  60
Asn Asn Gln Ser His Lys Ile Gln Tyr Leu Val Phe Leu Ala Leu Arg
 65                  70                  75                  80
Leu Ile Cys Cys Arg Ser Val Arg Arg Phe Phe Met Phe
                85                  90
```

<210>900
<211>246
<212>PRT
<213>Chlamydia trachomatis

```
<400>900
Ser Asn Glu Gln Arg Ser Glu Val Pro Cys Leu Leu Ala Leu Pro Lys
  1               5                  10                  15
Asp Pro Tyr Leu Val Arg Arg Met Lys Phe Phe Ser Leu Ile Tyr Lys
            20                  25                  30
Asp Gln Glu Val Val Pro Asn Lys Lys Val Leu Ser Pro Asp Ala Tyr
        35                  40                  45
Thr Ala Val Leu Thr Ala Gln Glu Leu Leu Glu Lys Thr Gln Glu Asp
    50                  55                  60
Cys Glu Ala Tyr Thr Gln Asn Thr His Glu Glu Cys Ala Lys Leu Arg
 65                  70                  75                  80
Glu Glu Ala Lys Asn Gln Gly Phe Gln Glu Gly Ser Lys Ala Trp Ser
                85                  90                  95
Lys Gln Leu Ala Phe Leu Ile Thr Glu Thr Gln Ala Met Arg Glu Gln
            100                 105                 110
Ile Lys Ala Ser Leu Val Pro Leu Ala Ile Ala Ser Val Lys Lys Ile
        115                 120                 125
Ile Gly Lys Glu Leu Glu Thr Lys Pro Glu Thr Val Val Ser Ile Ile
    130                 135                 140
Ser Glu Ser Leu Lys Asp Leu Thr Gln Asn Lys Arg Ile Val Ile His
145                 150                 155                 160
Ile Asn Pro Gln Asp Leu Ala Ile Val Glu Gln His Arg Pro Glu Leu
                165                 170                 175
Lys Lys Leu Val Glu Tyr Ala Asp Val Leu Leu Leu Ser Pro Lys Ala
            180                 185                 190
Ser Val Ser Pro Gly Gly Cys Ile Ile Glu Thr Glu Thr Gly Ile Val
        195                 200                 205
Asn Ala Gln Leu Asp Val Gln Leu Ala Ala Leu Glu Gln Ala Phe Ser
    210                 215                 220
Ala Ile Leu Lys His Lys Lys Pro Ala Asp Ala Ser Thr Thr Asp Gln
225                 230                 235                 240
Pro Gln Ser Lys Lys Asp
                245
```

<210>901
<211>278
<212>PRT
<213>Chlamydia trachomatis

```
<400>901
Val Thr Ala Asn Thr Phe Gly Ile Leu Asn Ile Leu Met Lys Gln Ala
  1               5                  10                  15
Lys Ala Asp Asp Leu Ala Gln Phe Leu Pro Glu His Leu Leu Leu Asp
            20                  25                  30
Ser Pro His His Gln Asp Ile Pro Leu Gln Ser Leu Ser Phe Asn Met
        35                  40                  45
Arg Trp Leu Ala Thr Ile His Pro Ser Trp Ile Ser Val Ala Met Lys
    50                  55                  60
Glu Phe Pro Pro Val Val Gln Ser Gln Leu Leu Ala Trp Leu Pro Leu
 65                  70                  75                  80
Pro Leu Thr Gln Glu Leu Leu Pro Leu Leu Asp Ser Gly Val Thr Pro
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                85                  90                  95
Ala Thr Lys Arg Cys Leu Asp Phe Gly Ala Phe Tyr Leu Leu Asp Leu
            100                 105                 110
Leu Ser Lys Lys Val Arg Pro Pro Gly Ile Thr Glu Glu Ile Phe Leu
        115                 120                 125
Pro Ala Ser Pro Phe Asn Ala Met Leu Tyr Tyr Val Gly Pro Thr Lys
    130                 135                 140
Met Ala Leu Ile Asn Cys Leu Gly Leu Tyr Thr Leu Ala Gln Glu Met
145                 150                 155                 160
Arg Asn Val Val Asp Arg Val Val Ile Asp Arg Val Gln Arg Val Leu
                165                 170                 175
Ser Glu Thr Glu Arg Met Phe Leu Asn Tyr Cys Lys Thr His Pro Met
            180                 185                 190
Lys His Leu Glu Pro Thr Ala Phe Leu Ala Ser Trp Glu Glu Asp Gln
        195                 200                 205
Ala Leu Arg His Phe Ile His Val Gln Gly Leu Arg Phe Leu Ala Arg
    210                 215                 220
Ala Leu Ala Lys Glu Asp Ser Ser Phe Leu Trp Tyr Phe Ile Arg Arg
225                 230                 235                 240
Leu Asp Val Gly Arg Gly Tyr Ile Phe Glu Lys Ala Leu Gln Ser Ser
                245                 250                 255
Ile Asp Ser Pro His Asn Glu Tyr Phe Arg Glu Arg Leu Glu His Cys
            260                 265                 270
Ile Ser Ile Leu Val Gln
        275
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<213>Chlamydia trachomatis
<400>902
Met Phe Arg Tyr Thr Leu Ser Arg Ser Leu Phe Phe Ile Leu Ala Leu
  1                 5                  10                  15
Phe Phe Cys Ser Ala Cys Asp Ser Arg Ser Met Ile Thr His Gly Leu
             20                  25                  30
Ser Gly Arg Asp Ala Asn Glu Ile Val Val Leu Leu Val Ser Lys Gly
         35                  40                  45
Val Ala Ala Gln Lys Val Pro Gln Ala Ala Ser Ser Thr Gly Gly Ser
     50                  55                  60
Gly Glu Gln Leu Trp Asp Ile Ser Val Pro Ala Ala Gln Ile Thr Glu
 65                  70                  75                  80
Ala Leu Ala Ile Leu Asn Gln Ala Gly Leu Pro Arg Met Lys Gly Thr
                 85                  90                  95
Ser Leu Leu Asp Leu Phe Ser Lys Gln Gly Leu Val Pro Ser Glu Met
            100                 105                 110
Gln Glu Lys Ile Arg Tyr Gln Glu Gly Leu Ser Glu Gln Met Ala Thr
        115                 120                 125
Thr Ile Arg Lys Met Asp Gly Ile Val Asp Ala Ser Val Gln Ile Ser
    130                 135                 140
Phe Ser Pro Glu Glu Asp Gln Arg Pro Leu Thr Ala Ser Val Tyr Ile
145                 150                 155                 160
Lys His Arg Gly Val Leu Asp Asn Pro Asn Ser Ile Met Val Ser Lys
                165                 170                 175
Ile Lys Arg Leu Val Ala Ser Ala Val Pro Gly Leu Tyr Pro Glu Asn
            180                 185                 190
Val Ser Val Val Ser Asp Arg Ala Ser Tyr Ser Asp Ile Thr Ile Asn
        195                 200                 205
Gly Pro Trp Gly Leu Ser Asp Glu Met Asp Tyr Val Ser Val Trp Gly
    210                 215                 220
Ile Ile Leu Ala Lys His Ser Leu Thr Lys Phe Arg Leu Val Phe Tyr
225                 230                 235                 240
Phe Leu Ile Leu Leu Leu Phe Ile Leu Ser Cys Gly Leu Leu Trp Val
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245 250 255
Ile Trp Lys Thr His Thr Leu Ile Ser Ala Leu Gly Gly Thr Lys Gly
260 265 270
Phe Phe Asp Pro Ala Pro Tyr Ser Gln Leu Ser Phe Thr Gln Asn Lys
275 280 285
Pro Ala Pro Lys Glu Thr Pro Gly Ala Ala Glu Gly Ala Glu Ala Gln
290 295 300
Thr Ala Ser Glu Gln Pro Pro Lys Glu Asn Ala Glu Lys Gln Glu Glu
305 310 315 320
Asn Asn Glu Asp Ala
325

<210>903
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<212>PRT
<213>Chlamydia trachomatis
<400>903
Lys Met Thr Asp Ser Glu Ser Pro Thr Pro Lys Lys Ser Ile Pro Ala
1 5 10 15
Arg Phe Pro Lys Trp Leu Arg Gln Lys Leu Pro Leu Gly Arg Val Phe
20 25 30
Ala Gln Thr Asp Asn Thr Ile Lys Asn Lys Gly Leu Pro Thr Val Cys
35 40 45
Glu Glu Ala Ser Cys Pro Asn Arg Thr His Cys Trp Ser Arg His Thr
50 55 60
Ala Thr Tyr Leu Ala Leu Gly Asp Ala Cys Thr Arg Arg Cys Gly Phe
65 70 75 80
Cys Asp Ile Asp Phe Thr Arg Asn Pro Leu Pro Pro Asp Pro Glu Glu
85 90 95
Gly Ala Lys Ile Ala Glu Ser Ala Lys Ala Leu Gly Leu Lys His Ile
100 105 110
Val Ile Thr Met Val Ser Arg Asp Asp Leu Glu Asp Gly Gly Ala Ser
115 120 125
Ala Leu Val His Ile Ile Glu Thr Leu His Thr Glu Leu Pro Thr Ala
130 135 140
Thr Ile Glu Val Leu Ala Ser Asp Phe Glu Gly Asn Ile Ala Ala Leu
145 150 155 160
His His Leu Leu Asp Thr His Ile Ala Ile Tyr Asn His Asn Val Glu
165 170 175
Thr Val Glu Arg Leu Thr Pro Phe Val Arg His Lys Ala Thr Tyr Arg
180 185 190
Arg Ser Leu Met Met Leu Glu Asn Ala Ala Lys Tyr Leu Pro Asn Leu
195 200 205
Met Thr Lys Ser Gly Ile Met Val Gly Leu Gly Glu Gln Glu Ser Glu
210 215 220
Val Lys Gln Thr Leu Lys Asp Leu Ala Asp His Gly Val Lys Ile Val
225 230 235 240
Thr Ile Gly Gln Tyr Leu Arg Pro Ser Arg Arg His Ile Pro Val Lys
245 250 255
Ser Tyr Val Ser Pro Glu Thr Phe Asp Tyr Tyr Arg Ser Val Gly Glu
260 265 270
Ser Leu Gly Leu Phe Ile Tyr Ala Gly Pro Phe Val Arg Ser Ser Phe
275 280 285
Asn Ala Asp Ser Val Phe Glu Ala Met Arg Gln Gly Lys Pro Gln Pro
290 295 300
Leu Arg Tyr Phe Arg Thr Lys Ile Ser His Ile Thr Cys Ser Phe
305 310 315

<210>904
<211>298
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<213>Chlamydia trachomatis
<400>904

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Thr Ser Lys Lys Ser Leu Lys Lys Trp Pro Leu Leu Ala Glu Gly Val
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Ile Gly Cys Glu Phe Ala Ser Leu Phe His Thr Leu Gly Ser Glu Val
             20                  25                  30
Ser Val Ile Glu Ala Ser Ser Gln Ile Leu Ala Leu Asn Asn Pro Asp
         35                  40                  45
Ile Ser Lys Thr Met Phe Asp Lys Phe Thr Arg Gln Gly Leu Arg Phe
     50                  55                  60
Val Leu Glu Ala Ser Val Ser Asn Ile Glu Asp Ile Gly Asp Arg Val
 65                  70                  75                  80
Arg Leu Thr Ile Asn Gly Asn Val Glu Glu Tyr Asp Tyr Val Leu Val
                 85                  90                  95
Ser Ile Gly Arg Arg Leu Asn Thr Glu Asn Ile Gly Leu Asp Lys Ala
            100                 105                 110
Gly Val Ile Cys Asp Glu Arg Gly Val Ile Pro Thr Asp Ala Thr Met
        115                 120                 125
Arg Thr Asn Val Pro Asn Ile Tyr Ala Ile Gly Asp Ile Thr Gly Lys
    130                 135                 140
Trp Gln Leu Ala His Val Ala Ser His Gln Gly Ile Ile Ala Ala Arg
145                 150                 155                 160
Asn Ile Gly Gly His Lys Glu Glu Ile Asp Tyr Ser Ala Val Pro Ser
                165                 170                 175
Val Ile Phe Thr Phe Pro Glu Val Ala Ser Val Gly Leu Ser Pro Thr
            180                 185                 190
Ala Ala Gln Gln Gln Lys Ile Pro Val Lys Val Thr Lys Phe Pro Phe
        195                 200                 205
Arg Ala Ile Gly Lys Ala Val Ala Met Gly Glu Ala Asp Gly Phe Ala
    210                 215                 220
Ala Ile Ile Ser His Glu Thr Thr Gln Gln Ile Leu Gly Ala Tyr Val
225                 230                 235                 240
Ile Gly Pro His Ala Ser Ser Leu Ile Ser Glu Ile Thr Leu Ala Val
                245                 250                 255
Arg Asn Glu Leu Thr Leu Pro Cys Ile Tyr Glu Thr Ile His Ala His
            260                 265                 270
Pro Thr Leu Ala Glu Val Trp Ala Glu Ser Ala Leu Leu Ala Val Asp
        275                 280                 285
Thr Pro Leu His Met Pro Pro Ala Lys Lys
    290                 295
<210>905
<211>212
<212>PRT
<213>Chlamydia trachomatis
<400>905
Met Asn Glu Ala Phe Asp Cys Val Val Ile Gly Ala Gly Pro Gly Gly
  1               5                  10                  15
Tyr Val Ala Ala Ile Thr Ala Ala Gln Ala Gly Leu Lys Thr Ala Leu
             20                  25                  30
Ile Glu Lys Arg Glu Ala Gly Gly Thr Cys Leu Asn Arg Gly Cys Ile
         35                  40                  45
Pro Ser Lys Ala Leu Leu Ala Gly Ala Glu Val Val Thr Gln Ile Arg
     50                  55                  60
His Ala Asp Gln Phe Gly Ile His Val Glu Gly Phe Ser Ile Asn Tyr
 65                  70                  75                  80
Pro Ala Met Val Gln Arg Lys Asp Ser Val Val Arg Ser Ile Arg Asp
                 85                  90                  95
Gly Leu Asn Gly Leu Ile Arg Ser Asn Lys Ile Thr Val Phe Ser Gly
            100                 105                 110
Xaa Gly Ser Leu Ile Ser Ser Thr Glu Val Lys Ile Leu Gly Glu Asn
        115                 120                 125
Pro Ser Val Ile Lys Ala His Ser Ile Ile Leu Ala Thr Gly Ser Glu
    130                 135                 140
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Pro Arg Ala Phe Pro Gly Ile Pro Phe Ser Ala Glu Ser Pro Arg Ile
145                 150                 155                 160
Leu Cys Ser Thr Gly Val Leu Asn Leu Lys Glu Ile Pro Gln Lys Met
                165                 170                 175
Ala Ile Ile Gly Gly Arg Cys Asp Arg Leu Arg Ile Arg Phe Leu Ile
            180                 185                 190
Pro Tyr Val Arg Leu Arg Ser Phe Cys Asp Arg Ser Lys Leu Ser Asn
        195                 200                 205
Pro Cys Phe Glu
    210
<210>906
<211>163
<212>PRT
<213>Chlamydia trachomatis
<400>906
Arg Xaa Asp Leu Met Pro Phe Ala Lys Glu Ala Asp Leu Gln Arg Thr
  1               5                  10                  15
Cys Trp Lys Cys Glu Gly Ser Val Ser Ala Cys Met Pro Gln Cys Pro
            20                  25                  30
Tyr Cys Ser Ala Phe Leu Gln Asp Pro Pro Val Thr Ser Lys Gly Phe
        35                  40                  45
Ser Ser Cys His Ile Thr Phe Pro Ser Glu Ala Ser Lys Lys Asn Gly
    50                  55                  60
Asp Ser Asp Leu Phe Ala Val Ser Ser Glu Asp Trp Glu Ala Val Leu
65                  70                  75                  80
Asn Ser Gln Asn Thr Phe Glu Glu Pro Val Gln Glu Pro Ala Pro Ser
                85                  90                  95
Gln Trp Asp Trp Leu Gln Tyr Trp Pro Thr Ala Ala Leu Phe Leu Gly
            100                 105                 110
Cys Gly Phe Leu Thr Phe Ser Leu Met Ile Leu Leu Phe Ser Thr Asp
        115                 120                 125
Ser Gly Leu Val Leu Ser Trp Pro Lys Asn Arg Ser Tyr Ile Tyr Ala
    130                 135                 140
Leu Val Gly Ile Leu Leu Ala Tyr Arg Gly Tyr Arg Ser Leu Pro Glu
145                 150                 155                 160
His Ser Lys

<210>907
<211>1204
<212>PRT
<213>Chlamydia trachomatis
<400>907
Gln Arg Leu Ile Leu Met Ile Leu Asn Ser Leu Ser Met Phe Arg His
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Gln Ala Thr Arg Phe Leu Gln Asp Asn Arg Asp Ser Ile Ala Val Ser
            20                  25                  30
Phe Ser Lys Asn Thr Tyr Lys Ile Thr Ile Pro Asp Glu Asp Ser Pro
        35                  40                  45
Asp Gly Glu Trp Ile Ser Thr Leu Ser Phe Asn Asp Glu Glu Arg Leu
    50                  55                  60
Ser Phe Ala Ala Cys Ser Cys Pro Asp Gly Asp Cys Cys Glu His Leu
65                  70                  75                  80
Leu Thr Ala Thr Leu Ala Ala Tyr Asp Pro Thr Glu Gly Ala Leu Leu
                85                  90                  95
His Val Lys Phe Glu Ser Ser Phe Trp Trp Gly Leu Phe Tyr Gln Leu
            100                 105                 110
Phe Leu Ser Lys Ala Pro Leu His Ala Pro Gly Asp Lys Val Tyr Thr
        115                 120                 125
Ile Gln Ser Gln Gln Leu Ser Val Ser Leu Gln Cys Leu Ser Ala Glu
    130                 135                 140
Ala Leu Thr Tyr Trp Leu Pro Ile Val His Thr Ser Pro Glu Pro Gln
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145                 150                 155                 160
Thr Ile Ser Lys Glu Thr Phe Ser Gln Ser Ala Leu Tyr Arg Ile Ala
                165                 170                 175
Arg Glu Leu Phe Met Phe Ser Gln Lys Gly Ala Ser Leu Val Ile Gln
            180                 185                 190
Glu Asn Pro Gln Gly Phe Pro Ser Leu Phe Ser Leu Gln Trp Glu Gly
        195                 200                 205
Ile Ala Leu Ser Ile Glu Val Leu Asp Val Asp Thr Leu Lys Ala Leu
    210                 215                 220
Phe Pro Leu Leu Glu Phe Ser Gln Thr Ser Leu Tyr Ser Gly Glu Pro
225                 230                 235                 240
Tyr Leu Leu His Asn Val His Val Val Pro Glu Gln Ala Arg Ile Tyr
                245                 250                 255
Phe Thr Lys Glu Tyr Pro Pro Leu Pro Lys Ser Ile Lys Glu Tyr Gln
            260                 265                 270
Glu Thr Val Leu Gly Pro Ile Lys Tyr Phe Ala Glu Ala Lys Lys Cys
        275                 280                 285
Thr Ser Ile Pro Lys Thr Leu Ser Leu Pro Ile His Ile Ile Pro Ala
    290                 295                 300
Leu Asp Arg Ser Phe Arg Glu His Leu Leu Ser Gln Leu Cys Tyr Glu
305                 310                 315                 320
Thr Glu Glu Arg Pro Ile His Tyr Ala Ile His Phe Leu Arg Asp Ala
                325                 330                 335
Ser Leu Ser Phe Ser Ala Tyr Leu Glu Thr Pro Gly Asp Leu Ser Glu
            340                 345                 350
Gly His Ile Ile Tyr Pro Glu Phe Cys Tyr Ile Pro Asn Lys Gly Leu
        355                 360                 365
Leu Ala Val Ser Gly Leu Leu Ser Pro Glu Ser Ser Phe Thr Ile Arg
    370                 375                 380
Ser Asp His Ile Glu Asn Phe Leu Asp Glu Tyr Gly Pro Phe Ile Lys
385                 390                 395                 400
Glu Pro Gly Phe Glu Thr Phe Ser Asn Gln Ser Pro Val Gly Ser Leu
                405                 410                 415
Ser Tyr Asn Val Thr Glu Gln Gly Val Leu Leu Phe His Tyr Asp Thr
            420                 425                 430
Gly Asn Ala Ala Asp Ile Glu Leu Arg Phe Gly Lys Trp Thr Tyr Tyr
        435                 440                 445
Ser Arg Gln Gly Phe Phe Leu Asn Ser Arg Leu Asp Leu Ala Leu Gln
    450                 455                 460
Asp Gly Leu Thr Ile Glu Ala Pro Gln Val Ala Asp Phe Ile Leu Thr
465                 470                 475                 480
His Glu Val Ala Leu Lys Ser Ile Pro Asn Phe Phe Ala Ala Gln Pro
                485                 490                 495
Pro Leu Lys Ser Ile Arg Phe Glu Val His Lys Glu Lys Lys Gly Ser
            500                 505                 510
Gly Ile Tyr Leu Gln Pro Ile Phe Glu Gly Leu Glu His Glu Ser Cys
        515                 520                 525
Arg Leu Phe Gly Gln Phe Leu Tyr Arg Glu Asn Val Gly Phe Ser Leu
    530                 535                 540
Leu Pro Ala Ala Leu Gln Met Leu Cys Gln Ile Pro Thr Glu Ile Pro
545                 550                 555                 560
Ala Asp Gln Val Ala Glu Phe Leu Leu Gln Phe Ser Lys Asp Asp Arg
                565                 570                 575
Met Val Phe Pro Asp Pro Gln Leu Ala Leu Pro Glu Arg Val Glu Leu
            580                 585                 590
Asn Ile Leu Ala Ile His Arg Pro His Pro Ser Ser Pro Leu His Leu
        595                 600                 605
Lys Ile Glu Ile Lys Thr Asn Ile Gly Ser Ile Pro Leu Gly Thr Val
    610                 615                 620
Leu Gln Ala Leu Lys Gly Lys Lys Asp Phe Leu Phe Ser Lys Ala Gly
625                 630                 635                 640
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Phe Leu Asn Leu Asp Asn Cys Leu Phe Val Phe Leu Lys Gln Phe Leu
645 650 655
Ser Ser Gln Arg Tyr Asp Ile Gln Glu Asn Thr Leu Ile Thr Met Val
660 665 670
Thr Asp Ile Phe Lys Leu Asp Ala Leu Ala Pro Met Ile Thr Asp Pro
675 680 685
Asn Ile Gln Ala Ser Glu Glu Asp Leu Ala Tyr Phe Ser Gln Leu Lys
690 695 700
Ser Ala Cys Leu Pro Pro Ile Pro Val Asn Leu Phe Ser Thr Asp His
705 710 715 720
Lys Leu Arg Pro Tyr Gln Asn Ser Gly Leu Leu Trp Leu Trp Phe Leu
725 730 735
Tyr Asn His Arg Leu Ser Gly Leu Leu Cys Asp Glu Met Gly Leu Gly
740 745 750
Lys Thr His Gln Ala Thr Ala Leu Leu Asp Ile Val Ala Gln Thr Ala
755 760 765
Lys Asn Pro Lys Phe Leu Val Val Cys Pro Thr Ser Val Leu Pro His
770 775 780
Trp Glu His Val Leu Ala Ser His Leu Pro Gln Ala Ser Leu Phe Ser
785 790 795 800
Phe His Gly Pro His Lys Pro Lys Thr Leu Pro Asp Cys Asp Ile Leu
805 810 815
Ile Thr Ser Tyr Gly Thr Leu Arg Gln Asn Tyr Ala Leu Phe Tyr Lys
820 825 830
Val Ser Phe Thr Val Ala Val Phe Asp Glu Ile His Thr Ala Lys Asn
835 840 845
Lys Ser Ser Gln Ile His Lys Ile Leu Cys Arg Leu Asp Ala Gln Met
850 855 860
Lys Leu Gly Leu Thr Gly Thr Pro Val Glu Asn Asn Leu Ile Glu Phe
865 870 875 880
Lys Gly Leu Leu Asp Ile Ile Leu Pro Asn Tyr Leu Pro Ser Asp Ala
885 890 895
Leu Phe Lys Arg Leu Phe Thr His Lys Asn Ala Ser Glu Thr Asp Glu
900 905 910
Asp Ile Ile Ser Ser Lys Asp Leu Leu Leu Lys Leu Thr Arg Pro Phe
915 920 925
Ile Leu Arg Arg Thr Lys Lys Leu Val Leu Pro Glu Leu Pro Glu Lys
930 935 940
Val Glu Ser Leu Ile Pro Cys Arg Leu Ser Pro Glu Gln Ser Gln Leu
945 950 955 960
Tyr Ser Ser Thr Leu Glu Lys Glu Lys Cys Gln Ile Gln Gln Leu Glu
965 970 975
Lys Glu Glu Asp Pro Ala Ser Val Asn Tyr Leu His Val Phe Ala Leu
980 985 990
Leu Asn Gln Leu Lys Gln Ile Cys Asp His Pro Ala Val Tyr Phe Lys
995 1000 1005
Asp Pro Glu Ser Tyr Lys Asn His Ser Ser Gly Lys Trp Ala Ala Phe
1010 1015 1020
Val Lys Leu Leu Asn Asp Ser Leu Ala Ser Gly Tyr Lys Val Val Val
1025 1030 1035 1040
Phe Ser Gln Tyr Ile Gln Met Ile Arg Ile Ile Ala Leu Tyr Leu Glu
1045 1050 1055
Glu His Ala Ile Glu Tyr Ala Leu Val Gln Gly Lys Ser Gln Asn Arg
1060 1065 1070
Lys Glu Glu Ile Asp Arg Phe Ser Asn Asp Pro Asn Cys Arg Val Phe
1075 1080 1085
Ile Gly Ser Leu Leu Ala Ala Gly Thr Gly Ile Asn Leu Thr Ala Gly
1090 1095 1100
Asn Val Val Ile Met Tyr Asp Arg Trp Trp Asn Pro Ala Lys Glu Asn
1105 1110 1115 1120
Gln Ala Leu Asp Arg Val His Arg Ile Gly Gln Lys Asn Thr Val Phe

Doc#: 1-0000000-0000000

1125 1130 1135
Ile Tyr Lys Leu Val Thr Glu Asp Thr Leu Glu Glu His Ile His Tyr
1140 1145 1150
Leu Ile Glu Lys Lys Met Arg Leu Leu Asn Gln Val Thr Thr Thr Gln
1155 1160 1165
Asp Ser Asn Ile Leu His Val Leu Asn Arg Glu Asp Leu Ile Thr Ile
1170 1175 1180
Leu Ser Tyr Lys Asp Glu His Met Leu Ser Glu Glu Val Gln Glu Asp
1185 1190 1195 1200
Ser Gly Asp Ser

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<211>411
<212>PRT
<213>Chlamydia trachomatis
<400>908
Met His Lys Lys Thr Gln Ser His Ser His Lys Gly Leu Ser Ile Trp
1 5 10 15
Ser Ile Gly Gly Ser Ile Phe Ala Met Phe Phe Gly Ala Gly Asn Val
20 25 30
Val Phe Pro Leu Ala Leu Gly His His Phe Tyr Tyr His Ile Ser Tyr
35 40 45
Ala Cys Leu Gly Met Ile Leu Thr Ala Val Leu Thr Pro Leu Leu Gly
50 55 60
Leu Phe Ala Met Met Leu Tyr Ser Gly Asn Tyr Arg Ser Phe Phe Ala
65 70 75 80 Ile Gly Arg Met
Pro Gly Met Val Leu Met Val Ala Ile Leu Cys
85 90 95
Ile Ile Gly Pro Phe Gly Gly Ile Pro Arg Thr Ile Ala Val Ser Tyr
100 105 110
Asp Thr Leu Ala Ser Leu Gly Asp Lys His Pro Thr Leu Leu Pro Ser
115 120 125
Leu Pro Trp Phe Ser Val Phe Phe Cys Val Leu Val Tyr Leu Phe Val
130 135 140
Cys Lys Leu Ser Lys Leu Ile Gln Trp Leu Gly Ser Val Phe Phe Pro
145 150 155 160
Val Met Leu Gly Thr Leu Ala Trp Leu Ile Ile Lys Gly Leu Leu Leu
165 170 175
Pro Ala His Ala Leu Pro Ser Glu Ser Val Thr Phe Ser Lys Gln Gln
180 185 190
Ala Phe Val Thr Gly Leu Ser Glu Gly Phe Asn Thr Met Asp Leu Leu
195 200 205
Gly Ala Phe Phe Phe Cys Ser Ile Val Leu Val Ser Ile Gln Gln Leu
210 215 220
Met Val Gln Gln Lys His Glu Ser Ser Glu Glu Lys Pro Leu Glu Phe
225 230 235 240
His His Ile Gly Lys Thr Glu Lys Tyr Lys Leu Ala Met Ser Phe Leu
245 250 255
Leu Ala Ala Ala Leu Leu Ser Leu Val Tyr Leu Gly Phe Ala Phe Cys
260 265 270
Ala Ala Arg His Ala Gly Ala Leu Ile Asp Val Gln Arg Gly Gln Ile
275 280 285
Leu Gly Arg Ile Ser Ala Leu Val Val Gly Pro Asn Ser Phe Leu Thr
290 295 300
Gly Leu Ser Val Phe Leu Ala Cys Leu Thr Thr Ala Ile Ala Val Thr
305 310 315 320
Gly Ile Phe Ala Asp Phe Ile Ala Arg Val Val Ser Ser Gln Lys Met
325 330 335
Ser Tyr Ser Asn Ala Leu Ile Val Thr Leu Val Pro Thr Tyr Leu Val
340 345 350
Ser Ile Leu Ser Phe Glu Asn Ile Ser Lys Ile Leu Ile Pro Ile Leu

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        355                 360                 365
Glu Met Ser Tyr Pro Ala Leu Ile Ala Leu Thr Cys Gly Val Ile Ala
    370                 375                 380
Lys Lys Leu Trp Asp Phe Arg His Val Lys Thr Leu Phe Tyr Leu Val
385                 390                 395                 400
Phe Ala Leu Thr Ile Leu Tyr Lys Leu Ser Val
                405                 410
<210>909
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<212>PRT
<213>Chlamydia trachomatis
<400>909
Ala Ile Ser Thr Pro Ala Leu Ala Cys Ser Leu Leu His Ile Asp Asp
  1               5                  10                  15
Leu Ala Glu Cys Leu Thr Thr Asp Tyr Gly Glu Glu Glu Ala Ile Arg
            20                  25                  30
Leu Ala Lys Ile Phe Leu Glu Glu Ala Pro Cys Ser Ile Arg Val Asn
        35                  40                  45
Thr Arg Arg Ile Ser Val Asp Lys Leu Gln Lys Val Leu Pro Phe Pro
    50                  55                  60
Cys Gln Arg Gly Ala Ala Pro Ser Ser Leu Arg Phe Glu Lys Arg Tyr
65                  70                  75                  80
Pro Leu Gln His Thr Arg Ala Phe Arg Arg Gly Leu Phe Glu Ile Gln
                85                  90                  95
Asp Glu Ser Ser Gln Ile Ile Thr Asn Ala Ile Leu Ile Lys Asp Ser
            100                 105                 110
Asp Thr Val Leu Asp Phe Cys Ala Gly Ala Gly Gly Lys Ser Leu Ile
        115                 120                 125
Phe Ala Gln Arg Ala Arg His Val Thr Leu His Asp Ser Arg Pro Gln
    130                 135                 140
Ala Leu Glu Glu Ala Arg His Arg Ser Pro Arg Ser Gly Ile Lys Asn
145                 150                 155                 160
Phe Thr Ile Pro Ser Gln Pro Leu Lys Lys His Ser Phe Ser Leu Val
                165                 170                 175
Val Val Asp Ala Pro Cys Thr Gly Ser Gly Val Phe Arg Arg His Pro
            180                 185                 190
Glu Lys Lys Leu Leu Phe Ser Lys Gln Leu Leu His Asn Asn Ser Ile
        195                 200                 205
Ala Gln Glu Lys Ile Leu Lys Glu Ala Leu Ala Tyr Val Ala Pro Arg
    210                 215                 220
Gly Arg Leu Val Tyr Ile Thr Cys Ser Leu Met Lys Glu Glu Asn Glu
225                 230                 235                 240
Lys His Thr Ser Trp Met Ala Ser Gln Gly Trp Lys Cys Val Lys Glu
                245                 250                 255
Val Lys Ile Pro Leu Val Ser Arg Gln Gly Asp Ala Phe Phe Ser Ser
            260                 265                 270
His Phe Ile Arg Ser Arg Ser Leu
        275                 280
<210>910
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<213>Chlamydia trachomatis
<400>910
Thr Tyr Arg Tyr Thr Arg Ser Gln Thr Arg Arg Pro Met Ile Pro Phe
  1               5                  10                  15
Arg Phe His His Leu Tyr Ile Leu Leu Asp Ser Leu Phe Ser Ser Pro
            20                  25                  30
Ile Gly Glu Ser Asn Arg Val Ala Ala Tyr Phe Lys Glu His Pro Ser
        35                  40                  45
Leu Gly Ser Lys Asp Arg Gln Trp Ile Asn Thr Arg Ile Phe Thr Ile
    50                  55                  60
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Leu Arg His Arg Arg Leu Leu Glu Ala Leu Val Leu Ala Glu Gly Lys
 65                  70                  75                  80
Glu Ile Ser Ala Gln Thr Leu Val Glu Lys Val Glu Glu Gly Val Thr
                85                  90                  95
Glu Asn Ile Glu Gln Phe Gln His Leu Pro Trp Pro Val Arg Tyr Ser
            100                 105                 110
Ile Ser Thr Ile
        115
<210>911
<211>437
<212>PRT
<213>Chlamydia trachomatis
<400>911
Met Arg Thr Phe Phe Leu Leu Cys Arg Phe Phe Ile Cys Leu Ala Pro
  1               5                  10                  15
Phe Phe Leu Ser Phe Pro Leu Tyr Ala Asp Pro His Thr Val Leu Thr
            20                  25                  30
Lys Gly Ile Ala Ala Ala Val Val His Ala Asp Ser Gly Ala Ile Leu
        35                  40                  45
Lys Glu Lys Asn Leu Asp His Lys Ile Phe Pro Ala Ser Met Thr Lys
    50                  55                  60
Ile Ala Thr Ala Leu Leu Ile Leu Arg Gln Tyr Pro Asp Val Leu Thr
 65                  70                  75                  80
Arg Phe Ile Thr Thr Arg Arg Glu Pro Leu Thr Ser Ile Thr Pro Gln
                85                  90                  95
Ala Lys Gln Gln Ser Gly Tyr Arg Ser Pro Pro His Trp Leu Glu Thr
            100                 105                 110
Asp Gly Met Thr Ile Gln Leu Lys Val Lys Glu Glu Val Ser Gly Trp
        115                 120                 125
Asp Leu Phe His Ala Leu Leu Ile Ser Ser Ala Asn Asp Ala Ala Asn
    130                 135                 140
Val Leu Ala Asp Ala Cys Cys Gln Ser Val Ser Ala Phe Met Arg Gln
145                 150                 155                 160
Leu Asn Glu Phe Leu Arg Glu Leu Gly Cys Gln Asn Thr His Phe Asn
                165                 170                 175
Ser Pro His Gly Leu His His Pro Asp His Tyr Thr Thr Ala Arg Asp
            180                 185                 190
Leu Ser Leu Ile Met Lys Glu Ala Leu Lys Glu Pro Leu Phe Arg Gln
        195                 200                 205
Val Ile His Thr Ala Ser Tyr Thr Met Glu Ala Thr Asn Leu Ser Pro
    210                 215                 220
Glu Arg Val Leu Ser Ser Thr Asn Lys Leu Leu Ser Ser Ser Ser Thr
225                 230                 235                 240
Tyr Phe Tyr Pro Pro Cys Leu Gly Gly Lys Thr Gly Thr Thr Lys Ser
                245                 250                 255
Ala Gly Lys Asn Ile Ile Phe Ala Ala Glu Lys Asn Asn Arg Ser Ile
            260                 265                 270
Ile Val Val Ala Ala Gly Tyr Phe Gly Pro Ala Ala Gln Leu Tyr Gln
        275                 280                 285
Asp Ala Ile Ala Leu Cys Glu Asp Leu Phe Asn Glu Gln Leu Leu Arg
    290                 295                 300
Cys Phe Leu Ile Pro Pro Ala Ser His Tyr Pro Val Pro Thr Arg Phe
305                 310                 315                 320
Gly Thr Val Thr Ala Pro Val Ala Gln Gly Ile Tyr Tyr Asp Phe Tyr
                325                 330                 335
Pro Ser Glu Gly Asp Pro Leu Leu Thr Leu Ser Leu Glu Pro Asn Lys
            340                 345                 350
Ile Ser Phe Pro Ile Arg Lys Gly Asp Leu Leu Gly His Trp Ile Leu
        355                 360                 365
Ser Thr Pro Thr Gly Glu Asn Gln His Ser Ile Pro Phe Leu Ala Glu
    370                 375                 380
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Ser Asp Ile Leu Pro Thr Leu Lys Gln Arg Ile Leu Leu Met Ser Leu
385                 390                 395                 400
Arg Ile Leu Thr Thr Tyr Arg Thr Tyr Val Leu Ile Leu Leu Phe Val
                405                 410                 415
Trp Ile Tyr Arg Arg Lys Lys Gln Pro Arg Ala Thr Lys Thr Phe Ser
            420                 425                 430
Asn Pro Phe Phe Ser
        435
<210>912
<211>151
<212>PRT
<213>Chlamydia trachomatis
<400>912
Gln Ile Thr Leu Glu Lys Gly Glu Thr Ala Val Ser Leu Asp Phe Leu
  1               5                  10                  15
Glu Asp Phe Phe Arg Arg Ser Ile Thr Asn His Asn Thr Ala Phe Pro
            20                  25                  30
Glu Gly Phe Leu Asp Ile Ser Asp Val Leu Ala Arg Ser Ala Leu Asp
        35                  40                  45
Phe Lys Ala Glu Glu Leu Ala Asp Ser Ala Val Asn Asp Phe Ile Val
    50                  55                  60
Ser Glu Ser Ser Asp Lys Leu Thr Leu Phe Asn Thr Asn Phe Ala Val
65                  70                  75                  80
Trp Leu Val Pro Thr Leu Val Asp Gly Glu Ala Ile Thr Arg Gly Tyr
                85                  90                  95
Ile Ala Leu Asn Gln Gly Glu Glu Phe Ser Pro Glu Leu Thr Phe Glu
            100                 105                 110
Ala Ser Gly Lys Tyr Asn Asn Ser Ser Leu Ile Leu Glu Ala Leu Arg
        115                 120                 125
Arg Tyr Leu Cys Asp Ile Gln Asp Thr Glu Lys Glu Leu Arg Ala Leu
    130                 135                 140
Arg Pro Pro Ser Ile Asp Gly
145                 150
<210>913
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<212>PRT
<213>Chlamydia trachomatis
<400>913
Gln Asn Thr Arg Trp Met Phe Leu Ile Met Arg Glu Leu Thr Thr Gln
  1               5                  10                  15
Met Leu Ser Leu Ser Leu Tyr Thr Gln Asn Leu Thr Thr His Ser Leu
            20                  25                  30
Ile Tyr Pro Ser Ile Glu Gly Gly Arg Lys Ala Arg Asn Ser Phe Ser
        35                  40                  45
Val Ser Trp Ile Ser His Lys Tyr Leu Arg Asn Ala Ser Lys Ile Lys
    50                  55                  60
Leu Glu Leu Leu Tyr Phe Pro Asp Ala Ser Lys Val Asn Ser Gly Glu
65                  70                  75                  80
Asn Ser Ser Pro Trp Phe Lys Ala Met
                85
<210>914
<211>152
<212>PRT
<213>Chlamydia trachomatis
<400>914
Leu Tyr Asn Arg Tyr Thr Met Thr Phe Ser Glu Gly Glu Gln Val Phe
  1               5                  10                  15
Pro Ala Thr Leu Gln Asp Leu Tyr Pro Met Leu Asp Phe Val Lys Arg
            20                  25                  30
Ala Gly Val His Cys Asn Cys Thr Gln Lys Lys Leu Ser Lys Leu Glu
        35                  40                  45
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Leu Ala Cys Glu Glu Leu Leu Leu Asn Ile Ile Thr His Ala Tyr Lys
50 55 60
Gly Leu Pro Ser Thr Gly Trp Ile Arg Ile Leu Cys Thr Glu Thr Pro
65 70 75 80
Asp Ala Leu Leu Val Arg Ile Thr Asp His Gly Pro Ala Phe Asn Pro
85 90 95
Ile Thr Ala Ser Pro Asp Ile Met Arg Leu Asp Leu Pro Ile Glu Gln
100 105 110
Arg Arg Ile Gly Gly Leu Gly Ile Phe Leu Ala Lys Tyr Ser Val Asp
115 120 125
Val Phe Asp Tyr Glu Arg Val Asn Asp Thr Asn Val Val Thr Leu Thr
130 135 140
Leu Tyr Thr Lys Pro His Asn Ser
145 150

<210>915
<211>177
<212>PRT
<213>Chlamydia trachomatis
<400>915
Ser Ala Cys Gly Tyr Thr Val Leu Ser Pro His Tyr Val Glu Lys Lys
1 5 10 15
Phe Ser Leu Ser Glu Gly Ile Tyr Val Cys Pro Ile Glu Gly Asp Ser
20 25 30
Leu Gly Asp Leu Val Ser Ser Leu Ser Tyr Glu Leu Glu Lys Arg Gly
35 40 45
Leu His Thr Arg Ser Gln Gly Thr Ser Ser Gly Tyr Val Leu Lys Val
50 55 60
Ser Leu Phe Asn Glu Thr Tyr Glu Asn Ile Gly Phe Ala Tyr Thr Pro
65 70 75 80
Gln Lys Pro Asp Glu Lys Pro Val Lys His Phe Ile Val Ser Asn Glu
85 90 95
Gly Arg Leu Ala Leu Ser Ala Lys Val Gln Leu Ile Lys Asn Arg Thr
100 105 110
Gln Glu Ile Leu Val Glu Lys Cys Leu Arg Lys Ser Val Thr Phe Asp
115 120 125
Phe Gln Pro Asp Leu Gly Thr Ala Asn Ala His Gln Leu Ala Leu Gly
130 135 140
Gln Phe Glu Met His Asn Glu Ala Ile Lys Ser Ala Ser Arg Ile Leu
145 150 155 160
Tyr Ser Gln Leu Ala Glu Thr Ile Val Gln Gln Val Tyr Tyr Asp Leu
165 170 175
Phe

<210>916
<211>281
<212>PRT
<213>Chlamydia trachomatis
<400>916
Thr Lys Ala Ile Arg Asp Leu Thr Asn Ser Leu Phe Leu Phe Tyr Asp
1 5 10 15
Asp Ala Leu Leu Leu Leu Ser Leu Arg Leu Ala Met Lys Val Ile Leu
20 25 30
Arg Ala Leu Cys Leu Phe Leu Val Leu Pro Cys Gly Cys Tyr Ala Arg
35 40 45
Val Pro Ser Phe Glu Pro Phe Arg Gly Ala Ile Ala Pro Asn Arg Tyr
50 55 60
Ile Pro Lys His Ser Pro Glu Leu Tyr Phe Glu Met Gly Asp Lys Tyr
65 70 75 80
Phe Gln Ala Lys Lys Phe Lys Gln Ala Leu Leu Cys Phe Gly Met Ile
85 90 95
Thr His His Phe Pro Glu His Ala Leu His Pro Lys Ala Gln Phe Leu

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                100                 105                 110
Val Gly Leu Cys Tyr Leu Glu Met Gly His Pro Asp Leu Ala Asp Lys
        115                 120                 125
Ala Leu Thr Gln Tyr Gln Glu Leu Ala Asp Thr Glu Tyr Ser Glu Gln
    130                 135                 140
Leu Phe Ala Ile Lys Tyr Ser Ile Ala Gln Ser Phe Ala Asn Gly Lys
145                 150                 155                 160
Arg Lys Asn Ile Val Pro Leu Glu Gly Phe Pro Lys Leu Leu Lys Ala
                165                 170                 175
Asp Thr Asp Ala Leu Arg Ile Phe Glu Glu Ile Val Thr Ala Ser Ser
            180                 185                 190
Asp Ala Asp Leu Lys Ala Ser Ala Leu Tyr Ala Lys Gly Ala Leu Leu
        195                 200                 205
Phe Asp Arg Lys Glu Tyr Ser Glu Ala Ile Lys Thr Leu Lys Lys Val
    210                 215                 220
Ser Leu Gln Phe Pro Ser His Ser Leu Ser Pro Glu Ser Phe Thr Leu
225                 230                 235                 240
Ile Ala Lys Ile His Cys Leu Gln Ala Leu Gln Glu Pro Tyr Asn Glu
                245                 250                 255
Gln Tyr Leu Gln Asp Ala Arg Met Lys Gln Gln Leu Tyr Val Asn Asn
            260                 265                 270
Thr Leu Ile Ile Leu Ala Ile Gln Lys
        275                 280
<210>917
<211>293
<212>PRT
<213>Chlamydia trachomatis
<400>917
Lys Gly Trp Val Met Lys Lys Val Val Phe Ile Ala Ala Ile Phe Ser
  1                 5                  10                  15
Ser Ile Val Phe Trp Asp Lys Ile Pro Tyr Ser His Arg Ile Lys Gln
             20                  25                  30
Phe Ala Met Asp Tyr Gly Ile Glu Leu Val Glu Lys Ser Ser Gln Leu
         35                  40                  45
Val Arg Lys Ile Ser Gly Asn Glu Arg Leu Cys Val Phe Glu Arg Arg
     50                  55                  60
Val Ser Glu Glu Gln Val Leu Ala Met Phe Ala Lys Asp Lys Ala Ser
 65                  70                  75                  80
Ala Glu Leu Leu Phe Val Pro His Val Leu Met Arg Val Arg Phe Ser
                 85                  90                  95
Gly Glu Glu Asp Lys Arg Ala Gly Ser His Glu Gly Ala Met Leu Trp
            100                 105                 110
Ser Leu Ser Asn Gly Glu Met Val Leu Asn Thr Gly Ser Trp Thr Tyr
        115                 120                 125
Ser Lys Gly Phe Arg Glu Cys Leu Met Leu Lys Ala Gly Lys Gln Asp
    130                 135                 140
Val Gln Leu Met Gln Val Leu Ala Gly Met Gly Gly Ser Ala Ser Arg
145                 150                 155                 160
Glu Val Leu Ser Gln Ala Leu Ser Met Arg Asn Val Arg Ala Asp Arg
                165                 170                 175
Val Ile Arg Ala Cys Gln Lys Lys Lys Leu Ile Phe Thr His Asp Asn
            180                 185                 190
Leu Ile Tyr Ser His Phe Gln Gln Pro Gln Pro Ile Lys Gly Cys Met
        195                 200                 205
Thr Val Phe Asn Ser Ser Pro Val Trp Leu Ala Lys Pro Lys Gly Ser
    210                 215                 220
Thr Val Cys Ser Val Val Tyr Pro Glu Asp Arg Ile Gln Asn Leu Val
225                 230                 235                 240
Glu Met Ile Phe Gly Asp Asn Phe Phe Ile Leu Ser Ser Glu Gln Ile
                245                 250                 255
His Val Pro Val Tyr Lys Val Ser Ile Ala Ala Ser Asp Ser Ser Val
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            260                 265                 270
Arg Val Glu Tyr Ile Asn Ala Ile Thr Gly Lys Pro Phe Asp Phe Ala
        275                 280                 285
Pro Thr Tyr Cys Lys
    290
<210>918
<211>1240
<212>PRT
<213>Chlamydia trachomatis
<400>918
Arg Ala Val Leu Thr Trp Ile Pro Leu His Cys His Ser Gln Tyr Ser
  1               5                  10                  15
Ile Leu Asp Ala Thr Cys Ser Ile Lys Lys Phe Val Ala Lys Ala Val
            20                  25                  30
Glu Tyr Gln Ile Pro Ala Leu Ala Leu Thr Asp His Gly Asn Leu Phe
        35                  40                  45
Gly Ala Val Glu Phe Tyr Lys Thr Cys Lys Gln Asn Ala Ile Lys Pro
    50                  55                  60
Ile Ile Gly Cys Glu Leu Tyr Val Ala Pro Ser Ser Arg Phe Asp Lys
65                  70                  75                  80
Lys Lys Glu Arg Lys Ser Arg Val Ala Asn His Leu Ile Leu Leu Cys
                85                  90                  95
Lys Asp Glu Glu Gly Tyr Arg Asn Leu Cys Leu Leu Ser Ser Leu Ala
            100                 105                 110
Tyr Thr Glu Gly Phe Tyr Tyr Val Pro Arg Ile Asp Arg Asp Leu Leu
        115                 120                 125
Ser Gln His Ser Lys Gly Leu Ile Cys Leu Ser Ala Cys Leu Ser Gly
    130                 135                 140
Ser Val Ala Gln Ala Ala Leu Glu Ser Glu Glu Asp Leu Glu Lys Asp
145                 150                 155                 160
Leu Leu Trp Tyr Gln Asp Leu Phe Gln Glu Asp Phe Phe Ser Glu Val
                165                 170                 175
Gln Leu His Lys Ser Ser Glu Glu Lys Val Ala Leu Phe Glu Glu Ala
            180                 185                 190
Trp Leu Lys Gln Asn Tyr Tyr Gln Phe Ile Glu Lys Gln Leu Lys Val
        195                 200                 205
Asn Glu Ala Val Leu Ala Thr Ser Lys Arg Leu Gly Ile Pro Ser Val
    210                 215                 220
Ala Thr Asn Asp Ile His Tyr Leu Asn Pro Asp Asp Trp Leu Ala His
225                 230                 235                 240
Glu Val Leu Leu Asn Val Gln Ser Arg Glu Pro Ile Arg Thr Ala Lys
                245                 250                 255
Gln Asn Thr Tyr Ile Pro Asn Pro Lys Arg Lys Thr Tyr Pro Ser Arg
            260                 265                 270
Glu Phe Tyr Phe Lys Ser Pro Gln Glu Met Ala Glu Leu Phe Ala Ala
        275                 280                 285
His Pro Glu Thr Ile Thr Asn Thr Cys Ile Val Ala Glu Arg Cys His
    290                 295                 300
Leu Glu Leu Asp Phe Glu Thr Lys His Tyr Pro Ile Tyr Val Pro Glu
305                 310                 315                 320
Ala Leu Gln Lys Lys Gly Ser Tyr Thr Glu Glu Glu Arg Tyr Lys Ala
                325                 330                 335
Ser Ser Ala Phe Leu Glu Glu Leu Cys Glu Gln Gly Leu Thr Ser Lys
            340                 345                 350
Tyr Thr Pro Glu Leu Leu Gly His Ile Ala Lys Lys Phe Pro Gly Glu
        355                 360                 365
Asp Pro Leu Thr Leu Val Lys Glu Arg Leu Lys Leu Glu Ser Ser Ile
    370                 375                 380
Ile Ile Ser Lys Gly Met Cys Asp Tyr Leu Leu Ile Val Trp Asp Ile
385                 390                 395                 400
Ile Asn Trp Ala Lys Asp His Gly Ile Pro Val Gly Pro Gly Arg Gly
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                405                 410                 415
Ser Gly Ala Gly Ser Val Met Leu Phe Leu Leu Gly Ile Thr Glu Ile
            420                 425                 430
Glu Pro Ile Arg Phe Asp Leu Phe Phe Glu Arg Phe Ile Asn Pro Glu
        435                 440                 445
Arg Ile Ser Tyr Pro Asp Ile Asp Ile Asp Ile Cys Met Ile Gly Arg
    450                 455                 460
Glu Arg Val Ile Asn Tyr Ala Ile Glu Arg His Gly Lys Asp Asn Val
465                 470                 475                 480
Ala Gln Ile Ile Thr Phe Gly Thr Met Lys Ala Lys Met Xaa Ile Lys
                485                 490                 495
Asp Val Gly Arg Thr Leu Asp Thr Pro Leu Ala Lys Val Asn Phe Ile
            500                 505                 510
Ala Lys His Ile Pro Asp Leu Asn Ala Thr Ile Thr Ser Ala Leu Glu
        515                 520                 525
Ala Asp Pro Glu Leu Lys Gln Leu Tyr Val Asp Asp Ala Glu Ala Ala
    530                 535                 540
Glu Val Ile Asp Met Ala Lys Lys Leu Glu Gly Ser Ile Arg Asn Thr
545                 550                 555                 560
Gly Val His Ala Ala Gly Val Ile Ile Cys Gly Asp Pro Leu Thr Asn
                565                 570                 575
His Ile Pro Ile Cys Val Pro Lys Asp Ser Ser Met Ile Ser Thr Gln
            580                 585                 590
Tyr Ser Met Lys Pro Val Glu Ser Val Gly Met Leu Lys Val Asp Phe
        595                 600                 605
Leu Gly Leu Lys Thr Leu Thr Gly Ile His Ile Ala Thr Gln Ala Ile
    610                 615                 620
Tyr Lys Lys Thr Gly Ile Leu Leu Arg Ala Ala Thr Ile Pro Leu Asp
625                 630                 635                 640
Asp Gln Asn Thr Phe Ser Leu Leu His Gln Gly Lys Thr Met Gly Ile
                645                 650                 655
Phe Gln Met Glu Ser Arg Gly Met Gln Asp Leu Ala Lys Asn Leu Arg
            660                 665                 670
Pro Asp Ala Phe Glu Glu Ile Ile Ala Ile Gly Ala Leu Tyr Arg Pro
        675                 680                 685
Gly Pro Met Asp Met Ile Pro Ser Phe Ile Asn Arg Lys His Gly Lys
    690                 695                 700
Glu Asn Ile Glu Xaa Asp His Pro Leu Met Glu Pro Ile Leu Lys Glu
705                 710                 715                 720
Thr Phe Gly Ile Met Val Tyr Gln Glu Gln Val Met Gln Ile Ala Gly
                725                 730                 735
Ser Leu Ala Lys Tyr Ser Leu Gly Glu Gly Asp Val Leu Arg Arg Ala
            740                 745                 750
Met Gly Lys Lys Asp His Glu Gln Met Val Lys Glu Arg Glu Lys Phe
        755                 760                 765
Cys Ser Arg Ala Ala Ala Asn Gly Ile Asp Pro Ser Ile Ala Thr Thr
    770                 775                 780
Ile Phe Asp Lys Met Glu Lys Phe Ala Ser Tyr Gly Phe Asn Lys Ser
785                 790                 795                 800
His Ala Ala Ala Tyr Gly Leu Ile Thr Tyr Thr Thr Ala Tyr Leu Lys
                805                 810                 815
Ala Asn Tyr Pro Lys Glu Trp Leu Ala Ala Leu Leu Thr Cys Asp Tyr
            820                 825                 830
Asp Asp Ile Glu Lys Val Gly Lys Leu Ile Gln Glu Ala His Ser Met
        835                 840                 845
Asn Ile Leu Val Leu Pro Pro Asp Ile Asn Glu Ser Gly Gln Asp Phe
    850                 855                 860
Glu Ala Thr Gln Glu Gly Ile Arg Phe Ser Leu Gly Ala Val Lys Gly
865                 870                 875                 880
Val Gly Met Ser Ile Val Asp Ser Ile Val Glu Glu Arg Glu Lys Asn
                885                 890                 895
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Gly Pro Tyr Lys Ser Leu Gln Asp Phe Val Gln Arg Ala Asp Phe Lys
            900                 905                 910
Lys Val Thr Lys Lys Gln Leu Glu Asn Leu Val Asp Ala Gly Thr Phe
        915                 920                 925
Asp Cys Phe Glu Pro Asn Lys Asp Leu Ala Leu Ala Ile Leu Asn Asp
    930                 935                 940
Leu Tyr Asp Thr Phe Phe Arg Glu Lys Lys Glu Ala Ala Thr Gly Val
945                 950                 955                 960
Leu Thr Phe Phe Ser Leu Asp Ser Met Xaa Arg Asp Pro Val Lys Ile
                965                 970                 975
Thr Val Xaa Pro Glu Asn Val Ile Gln Arg Ser Pro Lys Glu Leu Leu
            980                 985                 990
Lys Arg Glu Lys Glu Leu Leu Gly Val Tyr Leu Thr Ala His Pro Met
        995                 1000                1005
Asp Ala Val Glu His Met Leu Pro Phe Leu Ser Val Val Pro Ala Arg
    1010                1015                1020
Asp Phe Glu Gly Leu Pro His Gly Thr Ile Ile Arg Thr Val Phe Leu
1025                1030                1035                1040
Ile Asp Lys Val Thr Thr Lys Ile Ser Ser Ala Glu Gln Lys Lys Phe
                1045                1050                1055
Ala Leu Leu Gln Val Ser Asp Glu Val Asp Ser Tyr Glu Leu Pro Ile
            1060                1065                1070
Trp Ala Asp Met Tyr Ala Glu Tyr His Asp Leu Leu Glu Glu Asp Arg
        1075                1080                1085
Leu Ile Tyr Ala Ile Leu Ala Ile Asp Arg Arg Ser Asp Ser Leu Arg
    1090                1095                1100
Leu Ser Cys Arg Trp Met Arg Asp Leu Ser Thr Val Asn Asp Ser Val
1105                1110                1115                1120
Ile Ala Glu Cys Asp Glu Val Tyr Asp Arg Leu Lys Ser Gln Lys Val
                1125                1130                1135
Tyr Ser Ser Thr Lys Lys Ser Thr Gly Ala Gln Ser Ser Ala Met Ile
            1140                1145                1150
Lys Lys Val Glu Thr Arg Glu Ile Ser Pro Val Thr Ile Ser Leu Asp
        1155                1160                1165
Leu Asn Lys Leu Arg His Ser His Leu Phe Ile Leu Lys Gly Leu Ile
    1170                1175                1180
Arg Lys Tyr Ser Gly Ser Gln Ala Leu Ser Leu Val Phe Thr Lys Asp
1185                1190                1195                1200
Asn Gln Arg Phe Ala Ser Ile Ser Pro Asp Ala Asp Phe Phe Val Thr
                1205                1210                1215
Asp Asp Ile Ser Ser Leu Leu Gln Glu Ile Glu Ala Thr Asn Ile Pro
            1220                1225                1230
Ala Arg Val Leu Ala Thr Thr Val
        1235                1240
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<211>414
<212>PRT
<213>Chlamydia trachomatis
<400>919
Leu Phe Phe Tyr Phe Thr Arg Lys Ser Xaa Xaa Phe Ala Met Pro Thr
  1               5                  10                  15
Leu Ile Ala Asp Leu Gly Phe Asp Lys Ala Gln Leu Gly Ile Ile Gly
             20                  25                  30
Ser Thr Leu Tyr Ile Thr Tyr Gly Ile Ser Lys Phe Val Ser Gly Val
         35                  40                  45
Met Ser Asp Gln Ser Asn Pro Arg Tyr Phe Met Ala Ile Gly Leu Ile
     50                  55                  60
Ile Thr Gly Ile Ser Asn Ile Phe Phe Gly Leu Ser Ser Thr Ile Pro
 65                  70                  75                  80
Leu Phe Val Leu Phe Trp Gly Ile Asn Gly Trp Phe Gln Gly Trp Gly
                 85                  90                  95
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Trp Pro Pro Cys Ala Arg Leu Leu Thr His Trp Tyr Ser Lys Ser Glu
            100                 105                 110
Arg Gly Thr Trp Trp Ser Val Trp Ser Thr Ser His Asn Ile Gly Gly
        115                 120                 125
Ala Leu Ile Pro Val Leu Thr Gly Val Ala Ile Asp Tyr Thr Gly Trp
    130                 135                 140
Arg Gly Val Met Phe Ile Pro Gly Ile Ile Cys Ile Ile Met Gly Phe
145                 150                 155                 160
Ile Leu Ile Asp Arg Leu Arg Asp Thr Pro Gln Ser Leu Gly Leu Pro
                165                 170                 175
Ala Ile Glu Lys Phe Arg Lys Glu Glu Asp Ala His Pro His Glu Glu
            180                 185                 190
Thr Thr Ala Asp Ile Leu Glu Glu Glu Ala Glu Arg Glu Leu Ser Thr
        195                 200                 205
Lys Glu Ile Leu Phe Thr Tyr Val Leu Ser Asn Lys Trp Leu Trp Phe
    210                 215                 220
Leu Ser Phe Ala Ser Phe Phe Ile Tyr Val Val Arg Met Ala Val Asn
225                 230                 235                 240
Asp Trp Ser Ala Leu Tyr Leu Ile Glu Thr Lys Asp Tyr Ser Thr Val
                245                 250                 255
Lys Ala Asn Leu Cys Val Ser Leu Phe Glu Ile Gly Gly Leu Phe Gly
            260                 265                 270
Met Leu Leu Ala Gly Trp Leu Ser Asp Thr Ile Ser Lys Gly Lys Arg
        275                 280                 285
Gly Pro Met Asn Val Val Phe Ser Leu Gly Leu Leu Val Ser Ile Leu
    290                 295                 300
Gly Leu Trp Gly Thr Arg Asp Tyr Phe Val Trp Trp Ile Asp Gly Thr
305                 310                 315                 320
Phe Leu Phe Ile Ile Gly Phe Phe Leu Phe Gly Pro Gln Met Met Ile
                325                 330                 335
Gly Leu Ala Ala Ala Glu Leu Ser His Lys Lys Ala Ala Gly Thr Ala
            340                 345                 350
Ser Gly Phe Thr Gly Trp Phe Ala Tyr Phe Gly Ala Ala Phe Ala Gly
        355                 360                 365
Tyr Pro Leu Gly Lys Val Ala Gln Asp Trp Gly Trp His Gly Phe Phe
    370                 375                 380
Val Ala Leu Leu Ala Cys Ala Leu Ile Ala Leu Ile Leu Phe Leu Pro
385                 390                 395                 400
Thr Trp Asn Ala Ser Glu Gln Ser Leu Arg Lys His Ser His
                405                 410
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<210>920
<211>406
<212>PRT
<213>Chlamydia trachomatis
<400>920

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Leu Glu Lys Phe Ser Leu Trp Lys Arg Val Glu His Ala Ala His Arg
  1               5                  10                  15
Ile Cys Asn Leu Tyr Gly Phe Asp Glu Ile Arg Thr Pro Val Phe Glu
            20                  25                  30
Lys Thr Glu Thr Phe Leu Arg Val Gly Glu His Ser Asp Ile Val Lys
        35                  40                  45
Lys Glu Val Tyr Thr Xaa Leu Asp Lys Lys Gly Arg Ser Leu Thr Leu
    50                  55                  60
Arg Pro Glu Gly Thr Ala Ala Val Val Arg Ala Leu Leu Asp His Ser
65                  70                  75                  80
Ala Asp Met Arg Lys Asp Asn Lys Phe Tyr Tyr Ile Leu Pro Met Phe
                85                  90                  95
Arg Tyr Glu Arg Xaa Gln Ser Gly Arg Tyr Arg Gln His His Gln Phe
            100                 105                 110
Gly Leu Glu Ala Ile Gly Val Arg His Pro Leu Arg Asp Ala Glu Val
        115                 120                 125
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Leu Ser Leu Leu Trp Asp Phe Tyr Ala Ala Val Gly Leu Gln His Met
130 135 140
Gln Ile His Val Asn Phe Leu Gly Gly Gln Lys Thr Arg Ala Arg Tyr
145 150 155 160
Asp Glu Ala Leu Arg Glu Phe Phe Arg Lys Asp Leu Asp Arg Leu Ser
165 170 175
Pro Leu Ser Gln Glu Arg Tyr His Ala Asn Leu Leu Arg Ile Leu Asp
180 185 190
Ser Lys Glu Pro Glu Asp Gln Glu Phe Ile Glu Lys Ala Pro Ser Ile
195 200 205
Leu Asp Tyr Ile Asp Asp Arg Asp Leu Ser Tyr Phe Asp Ala Val Leu
210 215 220
Ala Gln Leu Lys Ala Leu Gly Ile Pro Phe Ala Ile Asn Pro Arg Leu
225 230 235 240
Val Arg Gly Leu Asp Tyr Tyr Thr Asp Leu Val Phe Glu Ala Val Thr
245 250 255
Val Val Gly Glu Arg Ser Tyr Ala Leu Gly Gly Gly Gly Arg Tyr Asp
260 265 270
Glu Leu Val Ala Gln Ser Gly Gly Pro Ser Met Pro Ala Phe Gly Phe
275 280 285
Gly Val Gly Leu Glu Arg Val Ile Gln Thr Leu Leu Glu Gln Gly Asn
290 295 300
Ser Leu Ser Thr Ser Thr Arg Arg Leu Arg Leu Ile Pro Met Asp Glu
305 310 315 320
Gln Ala Asp Ala Phe Cys Phe Ser Trp Ala Asn Arg Leu Arg Asn Leu
325 330 335
Gly Ile Ala Thr Glu Val Asp Trp Ser His Lys Lys Pro Lys Leu Ser
340 345 350
Leu Lys Asp Ala Ala Asp Gln Gln Val Ser Phe Val Cys Leu Leu Gly
355 360 365
Glu Gln Glu Leu Ala Thr Lys Gln Phe Ile Val Lys Asp Met Ser Leu
370 375 380
His Gln Ser Phe Ser Gly Ala Gln Gln Asp Val Glu Gln Arg Leu Val
385 390 395 400
Tyr Glu Val Gln Asn Ala
405

<210>921
<211>87
<212>PRT
<213>Chlamydia trachomatis
<400>921
Ser Ala Ala Ser Leu Arg Asp Asn Leu Gly Phe Leu Trp Leu Gln Ser
1 5 10 15
Thr Ser Val Ala Met Pro Arg Leu Arg Lys Arg Phe Ala His Glu Lys
20 25 30
Gln Asn Ala Ser Ala Cys Ser Ser Ile Gly Ile Asn Arg Asn Arg Arg
35 40 45
Val Glu Val Asp Lys Glu Phe Pro Cys Ser Asn Ser Val Trp Ile Thr
50 55 60
Leu Ser Asn Pro Thr Pro Lys Pro Lys Ala Gly Ile Glu Gly Pro Pro
65 70 75 80
Asp Cys Ala Thr Asn Ser Ser
85

<210>922
<211>582
<212>PRT
<213>Chlamydia trachomatis
<400>922
Met Lys Tyr Arg Thr His Lys Cys Asn Glu Leu Ser Leu Asp His Val
1 5 10 15
Gly Glu His Val Arg Leu Ser Gly Trp Val His Arg Tyr Arg Asn His

```
                20                  25                  30
Gly Gly Val Val Phe Ile Asp Leu Arg Asp Arg Phe Gly Ile Thr Gln
            35                  40                  45
Ile Val Cys Arg Gln Glu Glu Asn Pro Glu Leu His Gln Leu Met Asp
        50                  55                  60
Gln Val Arg Ser Glu Trp Val Leu Cys Val Glu Gly Leu Val Cys Ala
65                  70                  75                  80
Arg Leu Glu Gly Met Glu Asn Pro Asn Leu Val Thr Gly Ser Ile Glu
                85                  90                  95
Val Glu Val Ser Ser Leu Glu Val Leu Ser Arg Ala Gln Asn Leu Pro
            100                 105                 110
Phe Ser Ile Ser Asp Glu His Ile Asn Val Asn Glu Glu Leu Arg Leu
        115                 120                 125
Thr Tyr Arg Tyr Leu Asp Met Arg Arg Gly Asp Ile Leu Asp Arg Leu
    130                 135                 140
Met Cys Arg His Lys Val Met Leu Ala Cys Arg Gln Tyr Leu Asp Glu
145                 150                 155                 160
Gln Gly Phe Thr Glu Val Val Thr Pro Ile Leu Gly Lys Ser Thr Pro
                165                 170                 175
Glu Gly Ala Arg Asp Tyr Leu Val Pro Ser Arg Ile Tyr Pro Gly Asn
            180                 185                 190
Phe Tyr Ala Leu Pro Gln Ser Pro Gln Leu Phe Lys Gln Ile Leu Met
        195                 200                 205
Val Gly Gly Leu Asp Arg Tyr Phe Gln Ile Ala Thr Cys Phe Arg Asp
    210                 215                 220
Glu Asp Leu Arg Ala Asp Arg Gln Pro Glu Phe Thr Gln Ile Asp Met
225                 230                 235                 240
Glu Met Ser Phe Gly Gly Pro Glu Asp Leu Phe Pro Val Val Glu Glu
                245                 250                 255
Leu Val Thr Arg Leu Phe Ala Val Lys Gly Ile Glu Leu Lys Ala Pro
            260                 265                 270
Phe Leu Arg Met Thr Tyr Gln Glu Ala Lys Asp Ser Tyr Gly Thr Asp
        275                 280                 285
Lys Pro Asp Leu Arg Phe Ala Leu Arg Leu Lys Asn Cys Cys Glu Tyr
    290                 295                 300
Ala Arg Lys Phe Thr Phe Ser Ile Phe Leu Asp Gln Leu Ala His Gly
305                 310                 315                 320
Gly Thr Val Lys Gly Phe Cys Val Pro Gly Gly Ala Asp Met Ser Arg
                325                 330                 335
Lys Gln Leu Asp Ile Tyr Thr Asp Phe Val Lys Arg Tyr Gly Ser Met
            340                 345                 350
Gly Leu Val Trp Ile Lys Lys Gln Asp Gly Gly Val Ser Ser Asn Val
        355                 360                 365
Ala Lys Phe Ala Ser Glu Asp Val Phe Gln Glu Met Phe Glu Ala Phe
    370                 375                 380
Glu  Ala  Lys  Asp  Gln  Asp  Ile  Leu  Leu  Leu  Ile  Ala  Ala  Pro  Glu  Ala
390                 395                 400
Val Ala Asn Gln Ala Leu Asp His Leu Arg Arg Leu Ile Ala Lys Glu
                405                 410                 415
Arg Gln Leu Tyr Asp Ser Thr Gln Tyr Asn Phe Val Trp Ile Thr Asp
            420                 425                 430
Phe Pro Leu Phe Ala Lys Glu Glu Gly Glu Leu Cys Pro Glu His His
        435                 440                 445
Pro Phe Thr Ala Pro Leu Asp Glu Asp Ile Ser Leu Leu Asp Ser Asp
    450                 455                 460
Pro Phe Ala Val Arg Ser Ser Ser Tyr Asp Leu Val Leu Asn Gly Tyr
465                 470                 475                 480
Glu Ile Ala Ser Gly Ser Gln Arg Ile His Asn Pro Asp Leu Gln Asn
                485                 490                 495
Lys Ile Phe Ala Leu Leu Lys Leu Ser Gln Glu Ser Val Lys Glu Lys
            500                 505                 510
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Phe Gly Phe Phe Ile Asp Ala Leu Ser Phe Gly Thr Pro Pro His Leu
515 520 525
Gly Ile Ala Leu Gly Leu Asp Arg Ile Met Met Val Leu Thr Gly Ala
530 535 540
Glu Thr Ile Arg Glu Val Ile Ala Phe Pro Lys Thr Gln Lys Ala Gly
545 550 555 560
Asp Leu Met Met Ser Ala Pro Ser Glu Ile Leu Pro Ile Gln Leu Lys
565 570 575
Glu Leu Gly Leu Lys Leu
580

<210>923
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<212>PRT
<213>Chlamydia trachomatis
<400>923
Val Gln Leu Arg Lys Lys Arg Met Lys Asn Ile Leu Ser Trp Met Leu
1 5 10 15
Met Phe Ala Val Ala Leu Pro Ile Val Gly Cys Asp Asn Gly Gly Gly
20 25 30
Ser Gln Thr Ser Ala Thr Glu Lys Ser Met Val Glu Asp Ser Ala Leu
35 40 45
Thr Asp Asn Gln Lys Leu Ser Arg Thr Phe Gly His Leu Leu Ala Arg
50 55 60
Gln Leu Ser Arg Thr Glu Asp Phe Ser Leu Asp Leu Val Glu Val Ile
65 70 75 80
Lys Gly Met Gln Ser Glu Ile Asp Gly Gln Ser Ala Pro Leu Thr Asp
85 90 95
Thr Glu Tyr Glu Lys Gln Met Ala Glu Val Gln Lys Ala Ser Phe Glu
100 105 110
Ala Lys Cys Ser Glu Asn Leu Ala Ser Ala Glu Glu Phe Leu Lys Glu
115 120 125
Asn Lys Glu Lys Ala Gly Val Ile Glu Leu Glu Pro Asn Lys Leu Gln
130 135 140
Tyr Arg Val Val Lys Glu Gly Thr Gly Arg Ala Leu Ser Gly Lys Pro
145 150 155 160
Thr Ala Leu Leu His Tyr Thr Gly Ser Phe Ile Asp Gly Lys Asp Phe
165 170 175
Asp Ser Ser Glu Lys Asn Lys Ala Ala Ile Leu Leu Pro Leu Thr Lys
180 185 190
Val Ile Pro Gly Phe Ser Gln Gly Met Gln Gly Met Lys Glu Gly Glu
195 200 205
Val Arg Val Leu Tyr Ile His Pro Asp Leu Ala Tyr Gly Thr Ala Gly
210 215 220
Gln Leu Pro Pro Asn Ser Leu Leu Ile Phe Glu Val Xaa Leu Ile Glu
225 230 235 240
Ala Asn Asp Asp Asn Val Ser Val Thr Glu
245 250

<210>924
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<212>PRT
<213>Chlamydia trachomatis
<400>924
Met Arg Ile Val Leu His Asn Pro Asp Ile Pro Gln Asn Thr Gly Asn
1 5 10 15
Ile Gly Arg Thr Cys Val Ala Leu Gly Ala Glu Leu Ile Leu Val Arg
20 25 30
Pro Leu Gly Phe Ser Leu Ala Asp Lys Phe Val Lys Arg Ala Gly Met
35 40 45
Asp Tyr Trp Glu Arg Leu Ser Leu Ser Val Val Asp Ser Leu Glu Glu
50 55 60
Ala Leu Leu Gly Val Pro Lys Glu Arg Ile Phe Cys Leu Thr Thr Lys

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 65                  70                  75                  80
Gly Ser Ser Tyr Tyr Gly Glu Arg Glu Leu Pro Leu Asp Gly Thr Tyr
                85                  90                  95
Ile Phe Gly Ala Glu Ser Lys Gly Leu Ser Gln Thr Val Leu Asp Ala
            100                 105                 110
Tyr Ser Ser Gln Cys Leu Tyr Ile Pro Met Ile Glu Gly Thr Arg Ser
        115                 120                 125
Leu Asn Leu Ala Thr Ser Val Gly Ile Val Met Tyr Glu Val Ala Arg
    130                 135                 140
Gln Asn Tyr Lys Thr Leu Phe
145                 150
<210>925
<211>102
<212>PRT
<213>Chlamydia trachomatis
<400>925
Met Val Gln Val Val Ser Gln Glu Asn Phe Ala Asp Ser Ile Ala Ser
  1               5                  10                  15
Gly Leu Val Leu Ile Asp Phe Phe Ala Glu Trp Xaa Gly Pro Cys Lys
            20                  25                  30
Met Leu Thr Pro Val Leu Glu Ala Leu Ala Ala Glu Leu Pro His Val
        35                  40                  45
Thr Ile Leu Lys Val Asp Ile Asp Ser Ser Pro Arg Pro Ala Glu Gln
    50                  55                  60
Tyr Ser Val Ser Ser Ile Pro Thr Leu Ile Leu Phe Lys Asp Gly Lys
 65                  70                  75                  80
Glu Val Glu Arg Ser Val Gly Leu Lys Asp Lys Asp Ser Leu Ile Lys
                85                  90                  95
Leu Ile Ser Lys His Gln
            100
<210>926
<211>214
<212>PRT
<213>Chlamydia trachomatis
<400>926
Gln Arg Thr Cys Phe Xaa Xaa Glu Gln Ser Leu Arg Leu Ser Pro Val
  1               5                  10                  15
Val Phe Val Arg Asp Lys Ile Ile Phe Lys Ser Thr Glu Asp Ala Ile
            20                  25                  30
Gln Leu Leu Glu Ala Asp Lys Lys Ile Trp Arg Glu Thr Glu Ile Gln
        35                  40                  45
Ile Ser Ser Gly Lys Pro Glu Val Asn Glu Gln Thr Lys Arg Ile Tyr
    50                  55                  60
Ile Cys Pro Phe Thr Gly Lys Val Phe Ala Asp Asn Val Tyr Ala Asn
 65                  70                  75                  80
Pro Gln Asp Ala Ile Tyr Asp Trp Leu Ser Ser Cys Pro Gln Asn Arg
                85                  90                  95
Glu Arg Gln Ser Gly Val Ala Val Lys Arg Phe Leu Val Ser Asp Asp
            100                 105                 110
Pro Glu Val Ile Arg Ala Tyr Ile Val Pro Pro Lys Glu Pro Ile Ile
        115                 120                 125
Lys Thr Val Tyr Ala Ser Ala Val Thr Gly Lys Leu Phe His Ser Leu
    130                 135                 140
Pro Thr Leu Leu Glu Asp Phe Lys Thr Ser Tyr Leu Arg Pro Met Thr
145                 150                 155                 160
Leu Glu Glu Val Gln Asn Gln Asn Lys Phe Gln Leu Glu Ser Ser Phe
                165                 170                 175
Leu Thr Leu Leu Gln Asn Ala Leu Glu Glu Glu Lys Ile Ala Glu Phe
            180                 185                 190
Val Glu Ser Leu Ala Asp Asp Thr Ala Phe His Lys Tyr Ile Ser Gln
        195                 200                 205
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Trp Val Asp Thr Glu Glu
210
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<213>Chlamydia trachomatis
<400>927
Pro Met Gly Arg Tyr Arg Arg Val Thr His Ser Cys Glu Glu Thr Ile
1 5 10 15
Asp Leu Ala Thr Arg Val Gly Arg Asp Leu Thr Pro Gly Met Val Val
20 25 30
Leu Leu Ser Gly Asp Tyr Gly Ser Gly Lys Thr Glu Phe Val Arg Gly
35 40 45
Ile Val Gln Gly Phe Leu Gly Glu Ala Ala Val Asp Gln Val Ala Ser
50 55 60
Pro Ser Phe Ala Leu Leu His Val Tyr Glu Ala Gly Gly Arg Arg Val
65 70 75 80
Cys His Tyr Asp Leu Tyr Arg Leu Glu Thr Met Asp Ile Arg Asn Gly
85 90 95
Ala Asp Leu Phe Gln Asp Ala Glu Glu Glu Asp Leu Ile Cys Val Glu
100 105 110
Trp Pro Glu Ala Val Asn Leu Leu Pro Gln Phe Arg Lys Ser Val Cys
115 120 125
Val Gln Met Arg Ser Leu Thr Asp Ala Gln Arg Glu Val Ser Ile Gly
130 135 140
Val Thr Asp Gly Cys Asp Leu Ser Phe Phe Met Glu Asn Asp
145 150 155
<210>928
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<212>PRT
<213>Chlamydia trachomatis
<400>928
Arg Val Val Leu Leu Lys Asp Val Glu Phe Val Cys Leu Asp Cys Glu
1 5 10 15
Thr Thr Gly Leu Asp Val Lys Lys Asp Arg Val Ile Glu Phe Ala Ala
20 25 30
Ile Arg Phe Thr Phe Asp Glu Ile Ile Asp Ser Val Glu Phe Leu Ile
35 40 45
His Pro Glu Arg Ala Val Ser Ala Glu Ser Gln Lys Ile His Lys Ile
50 55 60
Ser Asp Ala Met Leu Arg Asp Lys Pro Lys Phe Gly Glu Val Phe Ser
65 70 75 80
Arg Ile Lys Gly Phe Phe Lys Glu Arg Asp His Ile Val Gly His His
85 90 95
Val Gly Phe Asp Leu Gln Val Leu Ser Gln Glu Ser Glu Arg Leu Gly
100 105 110
Glu Thr Leu Leu Pro Lys His His Tyr Val Ile Asp Thr Leu Arg Leu
115 120 125
Ala

<210>929
<211>123
<212>PRT
<213>Chlamydia trachomatis
<400>929
Leu Lys Glu Tyr Gly Asp Ser Pro Asn Asn Ser Leu Glu Ala Leu Ala
1 5 10 15
Arg His Phe Asn Val Pro His Gln Gly Asn His Arg Ala Met Lys Asp
20 25 30
Val Glu Met Asn Val Lys Val Phe Lys His Leu Thr Lys Arg Phe Arg
35 40 45

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Thr Leu Ser Gln Val Thr His Ile Leu Ser Lys Pro Ile Lys Met Lys
     50                  55                  60
Tyr Met Pro Leu Gly Lys Tyr Lys Gly Trp Leu Phe Thr Asp Ile Pro
 65                  70                  75                  80
Leu Glu Tyr Leu Leu Trp Ala Ser Lys Met Asp Phe Asp Gln Asp Leu
                85                  90                  95
Leu Phe Ser Ile Arg Ser Glu Ile Lys Ser Arg Lys Lys Gly Thr Gly
            100                 105                 110
Phe Ala Gln Ala Asn Asn Pro Phe Leu Gly Leu
        115                 120
<210>930
<211>163
<212>PRT
<213>Chlamydia trachomatis
<400>930
Lys Gly Asp Val Arg Lys Asp Asn Lys Glu Asp Lys Arg Lys Lys Val
  1               5                  10                  15
Ser Ala Ser Cys Ile Thr Asp His Ile Tyr Lys Ile Phe Pro Asn Asp
            20                  25                  30
Leu Asn Thr Asn Asn Thr Xaa Phe Gly Gly Leu Leu Met Ser Leu Leu
        35                  40                  45
Asp Arg Leu Ala Leu Val Val Ala Glu Arg His Cys Glu Ser Ile Cys
     50                  55                  60
Val Thr Ala Phe Val Asp Ala Met Arg Phe Tyr Ala Pro Ala Tyr Met
 65                  70                  75                  80
Gly Glu Asn Leu Ile Cys Cys Ala Ser Val Asn Arg Ser Trp Arg Thr
                85                  90                  95
Ser Leu Glu Val Gly Val Lys Val Trp Ala Glu Asn Ile Tyr Lys Gln
            100                 105                 110
Glu His Arg His Ile Thr Ser Ala Tyr Phe Thr Phe Val Ala Val Asp
        115                 120                 125
Lys Asn Asn Ser Pro Val Glu Val Pro Glu Leu Ile Pro Glu Ser Gln
    130                 135                 140
Glu Glu Ile Arg Arg Phe Arg Glu Ala Asp Gln Arg Arg Ala Leu Arg
145                 150                 155                 160
Leu Lys Leu

<210>931
<211>110
<212>PRT
<213>Chlamydia trachomatis
<400>931
Ala Ser Lys Gly Val Pro Leu Val Phe Lys Pro Val Ser Tyr Ile Ile
  1               5                  10                  15
Leu Ser Trp Val Leu Val Cys Leu Ala Gln Pro Asp Val Ser Val Val
            20                  25                  30
Ala Ser Val Val Ser Cys Ile Cys Gly Tyr Ser Leu Leu Trp Ala Gly
        35                  40                  45
Leu Phe Ala Leu Val Glu Gln Leu Ser Trp Lys Lys Val Trp Cys Ile
     50                  55                  60
Ala Phe Ile Trp Thr Trp Thr Val Glu Gly Ala His Phe Ser Trp Met
 65                  70                  75                  80
Leu Glu Asp Leu Tyr Val Gly Thr Ser Ile Tyr Phe Val Trp Gly Ile
                85                  90                  95
Leu Leu Ser Tyr Leu Ala Thr Leu Phe Ala Ser Phe Ser Cys
            100                 105                 110
<210>932
<211>438
<212>PRT
<213>Chlamydia trachomatis
<400>932
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Val Val Trp Cys Cys Arg Lys Gln Tyr Arg Gly Ala Leu Val Trp Leu
 1               5                  10                  15
Pro Gly Val Trp Val Ala Ile Glu Ala Ile Arg Tyr Tyr Gly Leu Leu
            20                  25                  30
Ser Gly Val Ser Phe Asp Phe Ile Gly Trp Pro Leu Thr Ala Thr Ala
        35                  40                  45
Tyr Gly Arg Gln Phe Gly Ser Phe Phe Gly Trp Ala Gly Gln Ser Phe
    50                  55                  60
Leu Val Ile Ala Ala Asn Ile Cys Cys Phe Ala Ala Cys Leu Leu Lys
65                  70                  75                  80
His Ser Phe Ser Lys Gly Leu Trp Leu Thr Leu Cys Ala Phe Pro Tyr
                85                  90                  95
Leu Leu Gly Gly Ala His Tyr Glu Tyr Leu Lys Lys His Phe Ser Asp
            100                 105                 110
Ser Glu Val Leu Arg Val Ala Ile Val Gln Pro Gly Tyr Ser Pro His
        115                 120                 125
Met His Ala Gly Arg Met Ala Ser Ala Ile Trp Arg Gly Leu Val Ser
    130                 135                 140
Leu Cys Gln Thr Ile Gln Thr Pro Val Asp Val Ile Val Phe Pro Glu
145                 150                 155                 160
Val Ser Val Pro Phe Gly Leu His Arg Gln Ala Tyr Thr Leu His Glu
                165                 170                 175
Asn Gln Pro Val Leu Glu Ser Leu Leu Pro Asn Lys Ser Trp Gly Glu
            180                 185                 190
Phe Phe Thr Asn Leu Asp Trp Ile Gln Ala Ile Ala Glu Arg Tyr Gln
        195                 200                 205
Cys Thr Val Ile Met Gly Met Glu Arg Trp Glu Asn Lys Gly Gly Ile
    210                 215                 220
Leu His Leu Tyr Asn Ala Ala Glu Cys Val Ser Arg Glu Gly Glu Ile
225                 230                 235                 240
Thr Ser Tyr Asp Lys Arg Ile Leu Val Pro Gly Gly Glu Tyr Ile Pro
                245                 250                 255
Gly Gly Lys Ile Gly Phe Ser Leu Cys Gln Thr Phe Phe Pro Glu Phe
            260                 265                 270
Ala Leu Pro Phe Gln Arg Leu Pro Gly Glu Phe Ser Gly Val Val Asn
        275                 280                 285
Ile Thr Glu Arg Ile Lys Ala Gly Ile Ser Ile Cys Tyr Glu Glu Thr
    290                 295                 300
Phe Gly Tyr Ala Ile Arg Pro Tyr Lys Arg Gln Gln Ala Asp Ile Leu
305                 310                 315                 320
Val Asn Leu Thr Asn Asp Gly Trp Tyr Pro Arg Ser Arg Leu Pro Leu
                325                 330                 335
Val His Phe Tyr His Gly Met Leu Arg Asn Gln Glu Leu Gly Ile Pro
            340                 345                 350
Cys Ile Arg Ala Cys His Thr Gly Val Ser Ala Ala Val Asp Ser Leu
        355                 360                 365
Gly Arg Ile Val Gly Ile Leu Pro Trp Glu Ser Arg Thr Cys Pro Val
    370                 375                 380
Ser Thr Gly Val Leu Gln Val Ser Val Pro Leu Tyr Ser Tyr His Thr
385                 390                 395                 400
Val Tyr Ala Arg Leu Gly Asp Ala Pro Leu Leu Leu Ile Ala Val Cys
                405                 410                 415
Ser Val Ile Gly Ala Ile Ala Tyr Phe Tyr Arg Lys Lys Lys Glu Thr
            420                 425                 430
Pro Pro Gln Thr Phe Phe
        435
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<210>933
<211>77
<212>PRT
<213>Chlamydia trachomatis
<400>933

Gly Met Leu Phe Arg Gly Gly Ser Ala Phe Trp Lys Ser Cys Asp Ala
1 5 10 15
Tyr Xaa Arg Ala Arg Arg Gly Lys Tyr Arg Arg Ile Phe Ser Arg His
20 25 30
Ala Ala Ser Glu Gln Tyr Ile Pro Ala Arg Leu Ala Asn Val Cys Gly
35 40 45
Thr Gly Arg Ser Thr Thr Leu Ser Leu Asp Gly Ser Val Ile Ser Thr
50 55 60
Val Glu His Leu Leu Ala Ser Leu Leu Leu Arg Ser Gly
65 70 75

<210>934
<211>208
<212>PRT
<213>Chlamydia trachomatis
<400>934
Asn Thr Cys Trp His Arg Ser Tyr Phe Gly Val Asp Asn Val Arg Ile
1 5 10 15
Tyr Cys Ser Glu Asp Glu Ile Pro Ile Gly Asp Gly Ser Ala Gln Val
20 25 30
Phe Met Asp Leu Ile Asp Gln Ala Gly Ile Gln Glu Gln Glu Gln Thr
35 40 45
Val Gln Ile Ala Arg Leu Ala His Pro Val Tyr Tyr Gln Tyr Gln Asp
50 55 60
Thr Ile Leu Ala Ala Phe Pro Ser Asp Glu Phe Lys Ile Ser Tyr Thr
65 70 75 80
Leu His Tyr Ser His Asn Ser Thr Ile Gly Thr Gln Tyr Arg Ser Leu
85 90 95
Val Ile Ser Glu Glu Ser Phe Arg Lys Glu Ile Ala Pro Cys Arg Thr
100 105 110
Phe Ala Leu Tyr Ser Glu Leu Cys Phe Leu Met Glu Lys Gly Leu Ile
115 120 125
Gly Gly Gly Cys Val Gly Asn Ala Val Leu Ser Lys Xaa Asp Gly Val
130 135 140
Ile Ser Leu Gly Lys Leu Arg Phe Pro Asp Glu Pro Val Arg His Lys
145 150 155 160
Ile Leu Asp Leu Ile Gly Asp Leu Ser Leu Val Gly Thr Pro Phe Leu
165 170 175
Ala His Val Ile Ala Val Gly Ser Gly His Ser Ser Asn Ile Ala Leu
180 185 190
Gly Asn Arg Ile Leu Glu Ala Leu Gln His Glu Gln Glu Leu Val Lys
195 200 205

<210>935
<211>158
<212>PRT
<213>Chlamydia trachomatis
<400>935
Thr Gly Val Ser Gln Met Asn Glu Lys Pro Val Leu Gly Ile Gln Asp
1 5 10 15
Ile Gln Asn Leu Leu Pro His Arg Tyr Pro Phe Leu Leu Val Asp Lys
20 25 30
Ile Leu Ser Tyr Asp Leu Asn Thr Arg Ser Val Val Ala Gln Lys Asn
35 40 45
Val Thr Ile Asn Glu Pro Phe Phe Ala Gly His Phe Pro Gly Ala Pro
50 55 60
Ile Met Pro Gly Val Leu Ile Leu Glu Ala Leu Ala Gln Ala Ala Gly
65 70 75 80
Val Leu Leu Gly Ile Ile Leu Glu Asn Asp Arg Asp Lys Lys Ile Ala
85 90 95
Leu Phe Leu Gly Ile Gln Lys Ala Lys Phe Arg Gln Pro Val Lys Pro
100 105 110
Gly Asp Val Leu Thr Leu Lys Ala Glu Phe Ser Leu Ile Ser Ala Lys

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        115                 120                 125
Gly Gly Lys Ala Phe Ala Gln Ala Phe Val Gly Ser Gln Val Val Ala
    130                 135                 140
Glu Gly Glu Leu Ser Phe Val Leu Val Lys Lys Glu Ser Ile
145                 150                 155
<210>936
<211>265
<212>PRT
<213>Chlamydia trachomatis
<400>936
Met Thr Asn Ile His Pro Thr Ala Ile Val Glu Asp Gly Ala Arg Ile
  1               5                  10                  15
Gly Asn Asn Val Thr Ile Glu Pro Tyr Ala Ile Val Lys Lys Ser Val
            20                  25                  30
Thr Leu Trp Asn Asp Val Val Val Lys Ser Tyr Ala Tyr Ile Asp Gly
        35                  40                  45
Phe Thr Thr Ile Gly Arg Xaa Thr Thr Val Trp Pro Ser Ala Met Ile
    50                  55                  60
Gly Asn Lys Pro Gln Asp Leu Lys Phe Lys Gly Glu Lys Thr Phe Val
65                  70                  75                  80
Glu Ile Gly Glu His Cys Glu Ile Arg Glu Phe Ala Met Ile Thr Ser
                85                  90                  95
Ser Thr Phe Glu Gly Thr Thr Val Ser Ile Gly Asn Asn Cys Leu Ile
            100                 105                 110
Met Pro Trp Ala His Ile Ala His Asn Cys Ser Val Gly Asn Asn Val
        115                 120                 125
Val Phe Ser Thr His Val Gln Leu Ala Gly His Val Gln Val Gly Asp
    130                 135                 140
Cys Val Thr Ile Gly Ser Met Val Gly Val His Gln Phe Val Arg Ile
145                 150                 155                 160
Gly Ser Tyr Ser Met Val Gly Ala Met Ser Gly Ile Arg Arg Asp Ile
                165                 170                 175
Pro Pro Phe Thr Ile Gly Thr Gly Asn Pro Tyr Ala Leu Gly Gly Ile
            180                 185                 190
Asn Lys Val Gly Leu Gln Arg Arg Gln Val Ser Phe Glu Thr Arg Leu
        195                 200                 205
Ala Leu Ile Lys Thr Phe Lys Arg Val Phe Arg Ser Asp Glu Ser Phe
    210                 215                 220
Gln Ala Ser Leu Glu Ser Val Leu Glu Asp Phe Gly Glu Val Pro Glu
225                 230                 235                 240
Val Arg His Phe Val Glu Phe Cys Arg Gln Pro Ser Lys Arg Gly Ile
                245                 250                 255
Glu Arg Gly Val Asp Cys Glu Asp Leu
            260                 265
<210>937
<211>207
<212>PRT
<213>Chlamydia trachomatis
<400>937
Leu Ser Leu Ser Leu Arg Val Val Tyr Leu Gly Thr Pro Gln Phe Ala
  1               5                  10                  15
Ala Thr Val Leu Lys Thr Leu Leu Asp Ala His Thr His Ile Val Gly
            20                  25                  30
Val Val Thr Arg Ala Asp Lys Pro Gln Lys Arg Ser Ser Lys Leu Ile
        35                  40                  45
Ser Ser Pro Val Lys Gln Leu Ala Leu Ser Lys Asn Ile Pro Leu Leu
    50                  55                  60
Gln Pro Ile Lys Thr Thr Asp Pro Ala Phe Leu Ala Gln Leu Arg Glu
65                  70                  75                  80
Trp Gln Ala Asp Val Phe Ile Val Val Ala Tyr Gly Val Ile Leu Lys
                85                  90                  95
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Gln Glu Leu Leu Asp Ile Pro Thr Tyr Gly Cys Tyr Asn Leu His Ala
            100                 105                 110
Gly Leu Leu Pro Ala Tyr Arg Gly Ala Ala Pro Ile Gln Arg Cys Ile
        115                 120                 125
Met Asp Gly Gly Val Leu Ser Gly Asn Thr Val Ile Arg Met Asp Ala
    130                 135                 140
Gly Met Asp Thr Gly Asp Ile Ala Asn Val Asn Tyr Val Ala Ile Gly
145                 150                 155                 160
Glu Asp Met Thr Ala Gly Gly Leu Ala Glu Ala Leu Ala Ala Ser Gly
                165                 170                 175
Gly Glu Leu Leu Leu Lys Thr Leu Gln Glu Ile Glu Ala Gly Thr Val
            180                 185                 190
Arg His Val Pro Gln Asn Glu Ala Met Leu Arg Trp Leu Leu Asn
        195                 200                 205
<210>938
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<212>PRT
<213>Chlamydia trachomatis
<400>938
Gly Arg Gly Arg Asp Ser Leu Gly Cys Ser Ser Phe Ser Ser Ile Arg
  1               5                  10                  15
Ala Tyr Pro Gly Ser Leu Ala Cys Ser Gly Arg Leu Asp Ser Leu Ser
            20                  25                  30
Ile Pro Arg Glu Arg Gly Xaa Arg Leu Gly Val Leu Ser Ala Arg Met
        35                  40                  45
Glu Ser Phe Ser Gly Asn Tyr Gly Asp Pro Gly Glu Val Leu Gly Val
    50                  55                  60
Ser Gly Glu Asp Leu Leu Ile Ala Cys Arg Gln Gly Ala Leu Arg Leu
65                  70                  75                  80
Arg Met Val Gln Pro Glu Gly Lys Ala Ser Met Lys Ala Lys Asp Phe
                85                  90                  95
Phe Asn Gly Gln Ser Arg Leu Val Ser Lys Leu Phe
            100                 105
<210>939
<211>335
<212>PRT
<213>Chlamydia trachomatis
<400>939
Val Asn Met Ala Ala Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn
  1               5                  10                  15
Ala Leu Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val
            20                  25                  30
Val Asn Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser
        35                  40                  45
Ala Ala Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly
    50                  55                  60
Ser Ser Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp
65                  70                  75                  80
Ala Arg Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro
                85                  90                  95
Gly Thr Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala
            100                 105                 110
Ser Gln Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys
        115                 120                 125
Val Ser His Lys Arg Arg Ala Ala Ala Ala Val Cys Ser Phe Ile Gly
    130                 135                 140
Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe
145                 150                 155                 160
Val Asn Lys Ile Trp Arg Asn Arg Phe Phe Leu Pro Lys Leu Lys Gln
                165                 170                 175
Ile Trp Asp Leu Leu Leu Ala Ile Leu Trp Arg Leu Thr Met Gln Arg
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Sequence Listing

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            180                 185                 190
Leu Trp Trp Val Leu Asp Ser Leu Ser Val Arg Lys Glu Gln Ile Ala
        195                 200                 205
Lys Pro Pro Ala Leu Val Leu Arg Glu Lys Ser Arg His Ser Asn Cys
    210                 215                 220
Arg Glu Arg Lys Met Leu Ala Arg Gly Glu Ser Leu Glu Arg Lys Pro
225                 230                 235                 240
Arg Arg Ser Arg Ala Ser Ser Met His Ser Ser Leu Cys Thr Arg Ser
                245                 250                 255
Phe Trp Asn Ala Leu Pro Thr Phe Ser Asn Trp Cys Arg Cys Leu Leu
            260                 265                 270
Gln Trp Val Phe Val Gln Leu Trp Leu Arg Asp Val Arg Ser Leu Pro
        275                 280                 285
Gln Leu Leu Asp Cys Gly Leu Ser Ala Thr Glu Tyr Xaa Gly Phe Phe
    290                 295                 300
Lys Phe Leu Lys Lys Lys Ala Val Ser Lys Lys Lys Gln Pro Phe Leu
305                 310                 315                 320
Ser Thr Lys Cys Leu Ala Phe Leu Ile Val Lys Ile Val Phe Leu
                325                 330                 335
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<210>940
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<212>PRT
<213>Chlamydia trachomatis
<400>940

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Leu His Arg Arg Asn Tyr Leu Pro Arg Asp Ile Arg Ser Tyr Pro Ser
  1               5                  10                  15
Asp Ser Val Cys Gln Gln Asn Leu Ala Gln Pro Phe Leu Ser Ser Gln
            20                  25                  30
Thr Lys Ala Asn Met Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn
        35                  40                  45
His Ala Ala Phe Val Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg
    50                  55                  60
Ala Asp Cys Glu Ala Pro Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser
65                  70                  75                  80
Leu Glu Leu Ser Gly Glu Glu Asn Ala Cys Glu Arg Arg Val Ala Gly
                85                  90                  95
Glu Lys Ala Lys Thr Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met
            100                 105                 110
His Glu Lys Phe Leu Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro
        115                 120                 125
Leu Pro Ile Thr Met Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr
    130                 135                 140
Phe Thr Thr Ala Val Ile Gly Leu Trp Thr Phe Cys Asn Arg Val Xaa
145                 150                 155                 160
Gly Ile Phe
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<210>941
<211>221
<212>PRT
<213>Chlamydia trachomatis
<400>941

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Met Arg Ser Gln Leu Ser Leu Ile Gly Lys Lys Glu Gly Met Met His
  1               5                  10                  15
Val Phe Asp Lys Asn Gly Asn Leu Val Ala Cys Ser Val Ile Ser Val
            20                  25                  30
Asp Ala Asn Val Val Ala Gln Leu Lys Thr Ala Ser Ser Asp Gly Tyr
        35                  40                  45
Asn Ala Val Gln Ile Gly Ala Asp Val Val Gln Ala Pro Glu Lys Thr
    50                  55                  60
Ile Glu Lys Arg Phe Ser Lys Ala Leu Leu Gly His Phe Lys Lys Ser
65                  70                  75                  80
```

```
Gly Gly Arg Ala Cys Arg Val Leu Lys Glu Val Val Val Ser Glu Glu
                 85                  90                  95
Ala Val Gln Ser Val Ser Leu Gly Asp Glu Phe Gly Leu Glu Ile Phe
            100                 105                 110
Asp Gly Val Ser Asn Val Asp Ile Cys Gly Ile Ser Lys Gly Lys Gly
        115                 120                 125
Phe Gln Gly Val Met Lys Lys Phe Gly Phe Arg Gly Gly Pro Lys Ser
    130                 135                 140
His Gly Ser Gly Phe His Arg His Ala Gly Ser Ile Gly Met Arg Ser
145                 150                 155                 160
Thr Pro Gly Arg Cys Phe Pro Gly Ser Lys Arg Pro Ser His Met Gly
                165                 170                 175
Cys Asp Arg Val Thr Val Lys Asn Leu Glu Val Val Lys Val Asp Leu
            180                 185                 190
Asp Arg Lys Val Met Leu Val Lys Gly Ala Ile Pro Gly Phe Lys Gly
        195                 200                 205
Ser Val Val Val Val Lys Arg Ser Cys Gly Val Glu Gly
    210                 215                 220
<210>942
<211>231
<212>PRT
<213>Chlamydia trachomatis
<400>942
Leu Arg Ser Arg Gly Val Glu Val Leu Met Val Leu Leu Ser Lys Phe
  1                 5                  10                  15
Asp Phe Ser Gly Lys Glu Leu Gly Lys Phe Glu Leu Pro Asp Ala Phe
             20                  25                  30
Phe Thr Glu Gly Arg Glu Gln Ser Val Lys Asp Tyr Leu Val Ala Ile
         35                  40                  45
Gln Ala Asn Lys Arg Gln Trp Ser Ala Cys Thr Arg Gly Arg Ser Glu
     50                  55                  60
Val Ser His Ser Thr Lys Lys Pro Phe Arg Gln Lys Gly Thr Gly Asn
 65                  70                  75                  80
Ala Arg Gln Gly Cys Leu Ala Ala Pro Gln Phe Arg Gly Gly Gly Ile
                 85                  90                  95
Val Phe Gly Pro Lys Pro Lys Phe Asp Gln His Ile Arg Ile Asn Lys
            100                 105                 110
Lys Glu Arg Arg Ala Ala Ile Arg Leu Leu Leu Ala Gln Lys Ile Gln
        115                 120                 125
Thr Gly Lys Leu Ile Val Ala Glu Asn Ser Val Phe Val Ser Ser Leu
    130                 135                 140
Asp Ala Pro Lys Thr Lys Glu Ala Leu Arg Phe Leu Lys Glu Cys Asn
145                 150                 155                 160
Val Glu Cys Arg Gly Val Leu Phe Val Asp Ser Leu Ala His Val Gly
                165                 170                 175
Ser Asn Glu Asn Leu Arg Leu Ser Val Arg Asn Leu Ser Ala Val Arg
            180                 185                 190
Gly Phe Thr Tyr Gly Glu Asn Ile Ser Gly Tyr Asp Ile Ala Ala Ala
        195                 200                 205
Arg Asn Ile Val Val Ser Glu Lys Ala Leu Glu Leu Leu Val Glu Ser
    210                 215                 220
Leu Val Ser Thr Thr Lys Asp
225                 230
<210>943
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>943
Met Lys Asp Pro Tyr Asp Val Val Lys Arg His Tyr Val Thr Glu Lys
  1                 5                  10                  15
Ala Lys Met Leu Glu Gly Leu Ser Leu Gly Asp Gly Glu Gly Lys Lys
```

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            20                  25                  30
Lys Gly Ser Phe Cys Lys Asp Pro Lys Tyr Thr Phe Ile Val Ala Gly
        35                  40                  45
Asp Ala Thr Lys Pro Met Ile Ala Glu Ala Ile Glu Ala Ile Tyr Ser
    50                  55                  60
Ala Lys Gly Val Lys Val Lys Lys Val Asn Thr Met Cys Val Lys Pro
65                  70                  75                  80
Gln Pro Thr Arg Ile Phe Arg Gly Arg Arg Lys Gly Arg Thr Ala Gly
                85                  90                  95
Phe Lys Lys Ala Ile Val Thr Phe Val Asp Gly His Ser Ile Gly
            100                 105                 110
```

<210>944
<211>284
<212>PRT
<213>Chlamydia trachomatis
<400>944

```
Met Phe Lys Lys Phe Lys Pro Val Thr Pro Gly Thr Arg Gln Leu Ile
  1               5                  10                  15
Leu Pro Ser Phe Asp Glu Leu Thr Thr Gln Gly Glu Leu Lys Gly Ser
            20                  25                  30
Ser Ser Arg Arg Ser Val Arg Pro Asn Lys Lys Leu Ser Phe Phe Lys
        35                  40                  45
Lys Ser Ser Gly Gly Arg Asp Asn Leu Gly His Ile Ser Cys Arg His
    50                  55                  60
Arg Gly Gly Gly Val Arg Arg His Tyr Arg Val Ile Asp Phe Lys Arg
65                  70                  75                  80
Asn Lys Asp Gly Ile Glu Ala Lys Val Ala Ser Val Glu Tyr Asp Pro
                85                  90                  95
Asn Arg Ser Ala Tyr Ile Ala Leu Leu Asn Tyr Val Asp Gly Glu Lys
            100                 105                 110
Arg Tyr Ile Leu Ala Pro Lys Gly Ile Lys Arg Gly Asp Arg Val Ile
        115                 120                 125
Ser Gly Glu Gly Ser Pro Phe Lys Thr Gly Cys Cys Met Thr Leu Lys
    130                 135                 140
Ser Ile Pro Leu Gly Leu Ser Val His Asn Val Glu Met Arg Pro Gly
145                 150                 155                 160
Ser Gly Gly Lys Leu Val Arg Ser Ala Gly Leu Ser Ala Gln Ile Ile
                165                 170                 175
Ala Lys Thr Ala Gly Tyr Val Thr Leu Lys Met Pro Ser Gly Glu Phe
            180                 185                 190
Arg Met Leu Asn Glu Met Cys Arg Ala Thr Val Gly Glu Val Ser Asn
        195                 200                 205
Ala Asp His Asn Leu Cys Val Asp Gly Lys Ala Gly Arg Arg Arg Trp
    210                 215                 220
Lys Gly Ile Arg Pro Thr Val Arg Gly Thr Ala Met Asn Pro Val Asp
225                 230                 235                 240
His Pro His Gly Gly Gly Glu Gly Arg His Asn Gly Tyr Ile Ser Gln
                245                 250                 255
Thr Pro Trp Gly Lys Val Thr Lys Gly Leu Lys Thr Arg Asp Lys Arg
            260                 265                 270
Lys Ser Asn Lys Trp Ile Val Lys Asp Arg Arg Lys
        275                 280
```

<210>945
<211>96
<212>PRT
<213>Chlamydia trachomatis
<400>945

```
Met Ser Arg Ser Leu Arg Lys Gly Pro Phe Val Asp His His Leu Leu
  1               5                  10                  15
Lys Lys Val Arg Asp Met Asn Ala Leu Glu Lys Lys Thr Pro Ile Lys
            20                  25                  30
```

Thr Trp Ser Arg Arg Ser Met Ile Thr Pro Glu Met Ile Gly His Thr
35 40 45
Phe Glu Val His Asn Gly Arg Lys Phe Leu Thr Val Phe Val Ser Glu
50 55 60
Thr Met Val Gly His Lys Leu Gly Glu Phe Ser Pro Thr Arg Met Phe
65 70 75 80
Lys Ser His Pro Val Lys Lys Gly Tyr His Lys Glu Thr Gly Tyr Val
85 90 95

<210>946
<211>145
<212>PRT
<213>Chlamydia trachomatis
<400>946
Leu Cys Gln Lys Leu Trp Leu Asp Thr Ser Trp Glu Ser Ser Leu Gln
1 5 10 15
Gln Glu Cys Leu Arg Ala Ile Pro Leu Lys Lys Gly Ile Ile Arg Arg
20 25 30
Gln Val Met Phe Lys Ala Thr Ala Arg Tyr Ile Arg Val Gln Pro Arg
35 40 45
Lys Ala Arg Leu Ala Ala Gly Leu Met Arg Asn Arg Ser Val Val Glu
50 55 60
Ala Gln Gln Gln Leu Ser Phe Ser Gln Met Lys Ala Gly Arg Cys Leu
65 70 75 80
Lys Lys Val Leu Asp Ser Ala Ile Ala Asn Ala Glu Ser Asn Glu Asn
85 90 95
Ile Lys Arg Glu Asn Leu Cys Val Leu Glu Val Arg Val Asp Ala Gly
100 105 110
Pro Met Phe Lys Arg Met Lys Ser Lys Ser Arg Gly Gly Arg Ala Pro
115 120 125
Ile Leu Lys Arg Thr Ser His Leu Thr Val Ile Val Gly Glu Arg Gly
130 135 140
Gln
145

<210>947
<211>219
<212>PRT
<213>Chlamydia trachomatis
<400>947
Met Ser Ser Arg Val Xaa Thr Ala Val Thr Lys Lys Trp Arg Ser Leu
1 5 10 15
Trp Tyr Gly Asn Asn Gln Glu Phe Ala Lys Phe Leu Ile Glu Asp Val
20 25 30
Lys Ile Arg Glu Phe Leu Lys Lys Lys Pro Ser Cys Gln Gly Ala Ala
35 40 45
Gly Phe Val Val Lys Arg Met Ser Gly Lys Ile Glu Val Thr Ile His
50 55 60
Thr Ala Arg Pro Gly Leu Val Ile Gly Lys Lys Gly Ala Glu Val Asp
65 70 75 80
Ser Leu Lys Ala Glu Leu Lys Lys Leu Thr Gly Lys Asp Val Trp Val
85 90 95
Glu Ile Ala Glu Val Lys Arg Pro Glu Leu Asn Ala Gln Leu Val Ala
100 105 110
Asp Gly Ile Ala Lys Gln Ile Glu Arg Arg Val Ser Phe Arg Arg Ala
115 120 125
Met Lys Lys Ala Leu Gln Ser Val Met Asp Ala Gly Ala Leu Gly Val
130 135 140
Lys Val Gln Val Ser Gly Arg Leu Ala Gly Ala Glu Ile Ala Arg Ser
145 150 155 160
Glu Trp Tyr Lys Asn Gly Arg Val Pro Leu His Thr Leu Arg Ala Asp
165 170 175
Ile Asp Tyr Ala Thr Ala Ser Ala Glu Thr Thr Tyr Gly Ile Ile Gly

```
            180                 185                 190
Ile Lys Val Trp Ile Asn Leu Gly Glu Lys Lys Ala Val Pro Ala Ala
        195                 200                 205
Asn His Ala Gly Ala Ala Ser Thr Ala Ala Ala
    210                 215
<210>948
<211>143
<212>PRT
<213>Chlamydia trachomatis
<400>948
Met Asn Gln Tyr Ala Lys Ala Ala Gly Lys Arg Thr Lys Phe Arg Lys
  1               5                  10                  15
Gln Gln Lys Gly Gln Phe Ala Gly Leu Ser Lys Gly Ala Thr Phe Val
            20                  25                  30
Asp Phe Gly Glu Phe Gly Met Gln Thr Leu Glu Arg Gly Trp Ile Thr
        35                  40                  45
Ser Arg Gln Ile Glu Ala Cys Arg Val Ala Ile Asn Arg Tyr Leu Lys
    50                  55                  60
Arg Lys Gly Lys Val Trp Ile Arg Val Phe Pro Asp Lys Ser Val Thr
65                  70                  75                  80
Lys Lys Pro Ala Glu Thr Arg Met Gly Lys Gly Lys Gly Ala Pro Asp
                85                  90                  95
His Trp Val Ala Val Val Arg Pro Gly Arg Ile Leu Phe Glu Val Ala
            100                 105                 110
Asn Val Ser Lys Glu Asp Ala Gln Asp Ala Leu Arg Arg Ala Ala Ala
        115                 120                 125
Lys Leu Gly Ile Arg Thr Arg Phe Val Lys Arg Val Glu Arg Val
    130                 135                 140
<210>949
<211>81
<212>PRT
<213>Chlamydia trachomatis
<400>949
Leu Leu Ser Val Trp Lys Gly Tyr Ser Met Gly Ala Lys Lys Asn Leu
  1               5                  10                  15
Leu Ala Glu Leu Arg Glu Lys Ser Ser Glu Glu Leu Asp Glu Phe Ile
            20                  25                  30
Arg Asp Asn Lys Lys Ala Leu Phe Ala Leu Arg Ala Glu Ala Ala Leu
        35                  40                  45
Gln Asn Lys Val Val Lys Thr His Gln Phe Ser Leu Tyr Lys Lys Ser
    50                  55                  60
Ile Ala Arg Ala Leu Ile Ile Lys Gln Glu Lys Lys Asp Arg Val His
65                  70                  75                  80
Gly

<210>950
<211>83
<212>PRT
<213>Chlamydia trachomatis
<400>950
Met Ala Ser Asp Val Arg Gly Arg Arg Lys Thr Lys Ile Gly Val Val
  1               5                  10                  15
Val Ser Ser Lys Met Glu Lys Thr Val Val Val Arg Val Glu Arg Val
            20                  25                  30
Tyr Ser His Pro Gln Tyr Ala Lys Val Val Arg Asp Ser Ser Lys Tyr
        35                  40                  45
Tyr Ala His Asn Glu Leu Asp Val Lys Glu Gly Asp Thr Val Arg Ile
    50                  55                  60
Gln Glu Thr Arg Pro Leu Ser Lys Thr Lys Arg Trp Arg Val Val Gly
65                  70                  75                  80
Arg Val Asn
```

<210>951
<211>122
<212>PRT
<213>Chlamydia trachomatis
<400>951

```
Met Ile Gln Gln Glu Ser Gln Leu Lys Val Ala Asp Asn Thr Gly Ala
  1               5                  10                  15
Lys Lys Val Lys Cys Phe Lys Val Leu Gly Gly Ser Arg Arg Arg Tyr
            20                  25                  30
Ala Thr Val Gly Asp Val Ile Val Cys Ser Val Arg Asp Ile Glu Pro
        35                  40                  45
Asp Ser Ser Val Lys Lys Gly Asp Val Val Lys Ala Val Ile Val Arg
    50                  55                  60
Thr Arg Asn Asp Ile His Arg Lys Asp Gly Ser Thr Leu Arg Phe Asp
65                  70                  75                  80
Thr Asn Ser Cys Val Ile Ile Asp Asp Lys Gly Asn Pro Lys Gly Thr
                85                  90                  95
Arg Ile Phe Gly Pro Val Ala Arg Glu Ile Arg Asp Arg Gly Phe Val
            100                 105                 110
Lys Ile Ser Ser Leu Ala Pro Glu Val Ile
        115                 120
```

<210>952
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>952

```
Met Lys Arg Arg Ser Val Cys Val Gly Asp Thr Val Tyr Val Leu Ala
  1               5                  10                  15
Gly Asn Asp Lys Gly Lys Gln Gly Lys Val Leu Arg Cys Leu Lys Asp
            20                  25                  30
Lys Val Val Val Glu Gly Ile Asn Val Arg Val Lys Asn Ile Lys Arg
        35                  40                  45
Ser Gln Glu Asn Pro Lys Gly Lys Arg Ile Asn Ile Glu Ala Pro Leu
    50                  55                  60
His Ile Ser Asn Val Arg Leu Ser Ile Asp Asn Gln Pro Ala Arg Leu
65                  70                  75                  80
Phe Val Lys Val Thr Glu Lys Gly Arg Glu Leu Trp Asn Lys His Ser
                85                  90                  95
Asp Gly Ser Ser Ser Leu Tyr Arg Leu Val Arg Glu Arg Lys Gly
            100                 105                 110
```

<210>953
<211>180
<212>PRT
<213>Chlamydia trachomatis
<400>953

```
Met Ser Arg Leu Lys Lys Leu Tyr Thr Glu Glu Ile Arg Lys Thr Leu
  1               5                  10                  15
Gln Asp Lys Phe Gln Tyr Glu Asn Val Met Gln Ile Pro Val Leu Lys
            20                  25                  30
Lys Ile Val Ile Ser Met Gly Leu Ala Glu Ala Ala Lys Asp Lys Asn
        35                  40                  45
Leu Phe Gln Ala His Leu Glu Glu Leu Ala Val Ile Ser Gly Gln Lys
    50                  55                  60
Pro Leu Val Thr Arg Ala Lys Asn Ser Ile Ala Gly Phe Lys Leu Arg
65                  70                  75                  80
Glu Gly Gln Gly Ile Gly Ala Lys Val Thr Leu Arg Gly Ile Arg Met
                85                  90                  95
Tyr Asp Phe Met Asp Arg Phe Cys Asn Ile Val Ser Pro Arg Ile Arg
            100                 105                 110
Asp Phe Arg Gly Phe Ser Cys Lys Gly Asp Gly Arg Gly Cys Tyr Ser
```

Sequence Listing

```
        115                 120                 125
Leu Gly Leu Asp Asp Gln Gln Ile Phe Pro Glu Val Asp Leu Asp Arg
    130                 135                 140
Val Lys Arg Ser Gln Gly Met Asn Ile Thr Trp Val Thr Thr Ala Gln
145                 150                 155                 160
Thr Asp Ala Glu Cys Leu Thr Leu Leu Glu Cys Met Gly Leu Arg Phe
                165                 170                 175
Lys Lys Ala Gln
            180
```

<210>954
<211>98
<212>PRT
<213>Chlamydia trachomatis
<400>954

```
Ser Asn Ile Arg Ile Leu Lys Gln His Gly Phe Val Ala His Phe Leu
  1               5                  10                  15
Val Lys Glu Glu Asn Arg Lys Arg Leu Met Arg Val Phe Leu Arg Tyr
            20                  25                  30
Gly Glu Asp Arg Arg Pro Val Ile His Ala Leu Lys Arg Val Ser Lys
        35                  40                  45
Pro Ser Arg Arg Val Tyr Val Ser Ala Ala Lys Ile Pro Tyr Val Phe
    50                  55                  60
Gly Asn Met Gly Ile Ala Val Leu Ser Thr Pro Gln Gly Val Leu Glu
65                  70                  75                  80
Gly Ser Val Ala Arg Ala Lys Asn Val Gly Gly Glu Leu Leu Cys Leu
                85                  90                  95
Val Trp
```

<210>955
<211>183
<212>PRT
<213>Chlamydia trachomatis
<400>955

```
Met Ser Arg Lys Ala Arg Asp Pro Ile Val Leu Pro Gln Gly Val Glu
  1               5                  10                  15
Val Ser Ile Gln Asn Asp Glu Ile Ser Val Lys Gly Pro Lys Gly Ser
            20                  25                  30
Leu Thr Gln Val Leu Ala Lys Glu Val Glu Ile Ala Val Lys Gly Asn
        35                  40                  45
Glu Val Phe Val Ala Pro Ala Ala His Val Val Asp Arg Pro Gly Arg
    50                  55                  60
Met Gln Gly Leu Tyr Trp Ala Leu Ile Ala Asn Met Val Lys Gly Val
65                  70                  75                  80
His Thr Gly Phe Glu Lys Arg Leu Glu Met Ile Gly Val Gly Phe Arg
                85                  90                  95
Ala Ala Val Gln Gly Ser Leu Leu Asp Leu Ser Ile Gly Val Ser His
            100                 105                 110
Pro Thr Lys Met Pro Ile Pro Thr Gly Leu Glu Val Ser Val Glu Lys
        115                 120                 125
Asn Thr Leu Ile Ser Ile Lys Gly Ile Asn Lys Gln Leu Val Gly Glu
    130                 135                 140
Phe Ala Ala Cys Val Arg Ala Lys Arg Pro Pro Glu Pro Tyr Lys Gly
145                 150                 155                 160
Lys Gly Ile Arg Tyr Glu Asn Glu Tyr Val Arg Arg Lys Ala Gly Lys
                165                 170                 175
Ala Ala Lys Thr Gly Lys Lys
            180
```

<210>956
<211>126
<212>PRT
<213>Chlamydia trachomatis

<400>956
Ser Arg Thr Met Glu Ser Ser Leu Tyr Lys Lys Thr Ser Gly Lys Ala
1 5 10 15
Arg Arg Ala Leu Arg Val Arg Lys Ala Leu Lys Gly Cys Ser Leu Lys
20 25 30
Pro Arg Leu Ser Val Val Lys Thr Asn Lys His Val Tyr Val Gln Leu
35 40 45
Ile Asp Asp Val Glu Gly Lys Thr Leu Ala Phe Ile Ser Thr Leu Ala
50 55 60
Lys Val Ala Lys Thr Ser Gly Leu Thr Arg Lys Asn Gln Asp Asn Ala
65 70 75 80
Lys Ala Leu Gly Ile Lys Ile Ala Glu Leu Gly Lys Gly Leu Gln Val
85 90 95
Asp Arg Val Val Phe Asp Arg Gly Ala His Lys Tyr His Gly Val Val
100 105 110
Ala Met Val Pro Asp Gly Ala Arg Glu Gly Gly Leu Gln Phe
115 120 125
<210>957
<211>165
<212>PRT
<213>Chlamydia trachomatis
<400>957
Xaa Thr Leu Ser Arg Asn Ser His Lys Glu Asp Gln Leu Glu Glu Lys
1 5 10 15
Val Leu Val Val Asn Arg Cys Cys Lys Val Val Lys Gly Gly Arg Lys
20 25 30
Phe Ser Phe Ser Ala Leu Ile Leu Val Gly Asp Arg Lys Gly Arg Leu
35 40 45
Gly Phe Gly Phe Ala Lys Ala Asn Glu Leu Thr Asp Ala Ile Arg Lys
50 55 60
Gly Gly Asp Ala Ala Arg Lys Asn Leu Val Ser Ile Asn Ser Leu Glu
65 70 75 80
Gly Gly Ser Ile Pro His Glu Val Leu Val Asn His Asp Gly Ala Glu
85 90 95
Leu Leu Leu Lys Pro Ala Lys Pro Gly Thr Gly Ile Val Ala Gly Ser
100 105 110
Arg Ile Arg Leu Ile Leu Glu Met Ala Gly Val Lys Asp Ile Val Ala
115 120 125
Lys Ser Leu Gly Ser Asn Asn Pro Met Asn Gln Val Lys Ala Ala Phe
130 135 140
Xaa Ala Leu Leu Thr Leu Ser Cys Lys Asp Asp Ile Met Lys Arg Arg
145 150 155 160
Ala Val Ile Asn Asp
165
<210>958
<211>144
<212>PRT
<213>Chlamydia trachomatis
<400>958
Met Ile Lys Leu Glu Cys Leu Gln Asp Pro Ser Pro Arg Lys Arg Arg
1 5 10 15
Thr Lys Leu Leu Gly Arg Gly Pro Ser Thr Gly His Gly Lys Thr Ser
20 25 30
Gly Arg Gly His Lys Gly Asp Gly Ser Arg Ser Gly Tyr Lys Arg Arg
35 40 45
Phe Gly Tyr Glu Gly Gly Gly Val Pro Leu Tyr Arg Arg Val Pro Thr
50 55 60
Arg Gly Phe Ser His Lys Arg Phe Asp Lys Cys Val Glu Glu Ile Thr
65 70 75 80
Thr Gln Arg Leu Asn Glu Ile Phe Asp Asn Gly Ala Glu Val Ser Leu
85 90 95

```
Glu Ala Leu Lys Glu Arg Lys Val Ile His Arg Glu Thr Ser Arg Val
            100                 105                 110
Lys Val Ile Leu Lys Gly Ala Leu Asp Lys Lys Leu Val Trp Lys Asp
        115                 120                 125
Ala Ala Ile Val Leu Ser Glu Gly Val Lys Ser Leu Ile Glu Ala Val
    130                 135                 140
<210>959
<211>457
<212>PRT
<213>Chlamydia trachomatis
<400>959
Met Ala Thr Leu Arg Gln Val Phe Ser Ile Ser Glu Leu Arg Gln Lys
  1               5                  10                  15
Ile Phe Phe Thr Phe Ser Leu Leu Ala Leu Cys Lys Ile Gly Val Phe
            20                  25                  30
Ile Pro Val Pro Gly Ile Asn Gly Asp Arg Ala Val Ala Tyr Phe Asn
        35                  40                  45
Gln Leu Leu Gly Ser Ser Gln Asn Leu Phe Gln Leu Ala Asp Ile Phe
    50                  55                  60
Ser Gly Gly Ala Phe Ala Gln Met Thr Val Ile Ala Leu Gly Val Val
65                  70                  75                  80
Pro Tyr Ile Ser Ala Ser Ile Ile Val Gln Leu Leu Val Val Phe Met
                85                  90                  95
Pro Thr Leu Gln Arg Glu Met Arg Glu Ser Pro Asp Gln Gly Lys Arg
            100                 105                 110
Lys Leu Gly Arg Met Thr Arg Leu Phe Thr Leu Val Leu Ala Cys Val
        115                 120                 125
Gln Ser Leu Leu Phe Ala Lys Phe Ala Leu Arg Met Asn Leu Val Val
    130                 135                 140
Pro Gly Ile Val Leu Pro Ala Met Leu Ser Leu Lys Leu Phe Gly Val
145                 150                 155                 160
Pro Trp Val Phe Tyr Leu Thr Thr Val Val Val Met Thr Thr Gly Thr
                165                 170                 175
Leu Leu Leu Met Trp Val Gly Glu Gln Ile Ser Asp Lys Gly Ile Gly
            180                 185                 190
Asn Gly Ile Ser Leu Ile Ile Thr Leu Gly Ile Leu Ala Ser Phe Pro
        195                 200                 205
Ser Val Leu Gly Ser Ile Phe Asn Lys Leu Asn Leu Gly Ser Gln Asp
    210                 215                 220
Pro Ser Glu Phe Gly Ile Val Ser Leu Leu Ile Leu Cys Ala Val Phe
225                 230                 235                 240
Val Phe Val Leu Ile Ala Thr Val Leu Ile Ile Glu Gly Val Arg Lys
                245                 250                 255
Ile Pro Val Gln His Ala Arg Arg Ile Ile Gly Arg Arg Glu Val Val
            260                 265                 270
Gly Gly Gly Ser Tyr Leu Pro Leu Lys Val Asn Tyr Ala Gly Val Ile
        275                 280                 285
Pro Val Ile Phe Ala Ser Ser Leu Leu Met Phe Pro Ala Thr Ile Gly
    290                 295                 300
Gln Phe Leu Ser Ser Glu Ser Ser Trp Leu Lys Arg Ile Ala Thr Met
305                 310                 315                 320
Leu Ser Pro Gly Ser Val Ala Tyr Ser Ile Phe Tyr Val Leu Leu Ile
                325                 330                 335
Ile Phe Phe Thr Tyr Phe Trp Thr Ala Thr Gln Phe Arg Pro Glu Gln
            340                 345                 350
Ile Ala Ser Glu Met Lys Lys Asn Gly Ala Phe Ile Pro Gly Ile Arg
        355                 360                 365
Gln Gly Lys Pro Thr Gln Thr Tyr Leu Glu Tyr Thr Met Asn Arg Val
    370                 375                 380
Thr Leu Leu Gly Ala Val Phe Leu Ala Val Val Ala Ile Leu Pro Ser
385                 390                 395                 400
```

Val Leu Gly Arg Ile Leu Arg Val Asp Ala Asn Val Ser Tyr Phe Leu
405 410 415
Gly Gly Thr Ala Met Leu Ile Val Val Gly Val Ile Leu Asp Thr Met
420 425 430
Lys Gln Ile Asp Ala Phe Leu Leu Val Arg Arg Tyr Asp Gly Val Leu
435 440 445
Lys Lys Asp Arg Pro Lys Gly Arg Pro
450 455

<210>960
<211>122
<212>PRT
<213>Chlamydia trachomatis
<400>960
Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys
1 5 10 15
Ile Ser Leu Thr Tyr Ile Tyr Gly Ile Gly Pro Ala Leu Ser Lys Glu
20 25 30
Ile Ile Ala Arg Leu Gln Leu Asn Pro Glu Ala Arg Ala Ala Glu Leu
35 40 45
Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln Ser Asp Tyr
50 55 60
Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg
65 70 75 80
Leu Ile Thr Ile His Ala Tyr Arg Gly Gln Arg His Arg Leu Ser Leu
85 90 95
Pro Val Arg Gly Gln Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly
100 105 110
Lys Arg Lys Thr Ile Ala Gly Lys Lys Lys
115 120

<210>961
<211>132
<212>PRT
<213>Chlamydia trachomatis
<400>961
Leu Val Lys Asn Gln Ala Gln Lys Arg Gly Val Lys Arg Lys Gln Val
1 5 10 15
Lys Asn Ile Pro Ser Gly Val Val His Val Lys Ala Thr Phe Asn Asn
20 25 30
Thr Ile Val Thr Ile Thr Asp Pro Ala Gly Asn Val Ile Ser Trp Ala
35 40 45
Ser Ala Gly Lys Val Gly Tyr Ser Gly Ser Arg Lys Ser Ser Ala Phe
50 55 60
Ala Ala Thr Val Ala Ala Gln Asp Ala Ala Lys Ala Ala Met Ser Ser
65 70 75 80
Gly Leu Lys Glu Val Glu Val Gly Leu Lys Gly Thr Gly Ala Gly Arg
85 90 95
Glu Ser Ala Val Arg Ala Leu Ile Ser Ser Gly Leu Ile Val Ser Val
100 105 110
Ile Arg Asp Glu Thr Pro Val Pro His Asn Gly Cys Arg Pro Arg Lys
115 120 125
Arg Arg Arg Val
130

<210>962
<211>193
<212>PRT
<213>Chlamydia trachomatis
<400>962
Val Ser Thr Lys Lys Thr Thr Lys Ser Val Val Ile Ala Lys Glu Phe
1 5 10 15
Gly Met Ser Asp Ser Ser His Asn Leu Leu Tyr Asn Lys Phe Glu Leu
20 25 30

```
Pro Glu Ser Val Lys Met Ser Pro Val Glu Gly Ala Val Gly Gly Ile
          35                  40                  45
Asp Lys Val Ala Arg Phe Val Ala Asp Pro Leu Glu Lys Gly Met Gly
      50                  55                  60
His Thr Leu Gly Ser Ala Leu Arg Arg Ala Leu Leu Ile Gly Leu Glu
 65                  70                  75                  80
Ala Pro Ala Ile Val Ser Phe Ser Met Thr Gly Val Leu His Glu Tyr
                 85                  90                  95
Met Ala Val Glu Gly Ile Ile Glu Asp Val Thr Asn Ile Val Leu Asn
            100                 105                 110
Leu Lys Gly Ser Leu Leu Lys Lys Tyr Pro Leu Gln Asp Cys Glu Gly
        115                 120                 125
Gly Arg Cys Ser Gln Lys Leu Arg Ala Thr Ile Ser Val Asp Ala Ser
    130                 135                 140
Asp Leu Ala Ala Ala Gly Gly Gln Lys Glu Val Thr Leu Gly Asp Leu
145                 150                 155                 160
Leu Gln Glu Gly Thr Phe Glu Ala Val Asn Pro Glu His Val Ile Phe
                165                 170                 175
Thr Val Thr Arg Pro Met Gln Leu Glu Val Met Leu Pro Ser Cys Phe
            180                 185                 190
Trp
```

09605242 090502

<210>963
<211>220
<212>PRT
<213>Chlamydia trachomatis
<400>963

```
Phe Leu Arg Ser Arg Val Gln Cys Asn Leu Arg Leu Cys Cys Arg Val
  1                 5                  10                  15
Ala Phe Gly Arg Gly Tyr Ser Pro Ser Glu Arg Ile Val Leu Glu Glu
            20                  25                  30
Arg Gly Met Asn Glu Ile Val Leu Asp Ala Ala Phe Ser Pro Val Val
        35                  40                  45
Leu Val Asn Tyr Phe Val Glu Asp Thr Arg Val Gly Gln Asp Thr Asp
    50                  55                  60
Phe Asp Arg Leu Val Leu Gln Val Glu Thr Asp Gly Arg Val Ala Pro
65                  70                  75                  80
Lys Glu Ala Val Ala Phe Ala Thr Gln Ile Leu Ser Lys His Phe Ser
                85                  90                  95
Val Phe Glu Lys Met Asp Glu Lys Arg Ile Val Phe Glu Glu Ala Ile
            100                 105                 110
Ser Val Glu Lys Glu Asn Lys Asp Asp Ile Leu His Lys Leu Val Leu
        115                 120                 125
Gly Ile Asn Glu Ile Glu Leu Ser Val Arg Ser Thr Asn Cys Leu Ser
    130                 135                 140
Asn Ala Asn Ile Glu Thr Ile Gly Glu Leu Val Ile Met Pro Glu Pro
145                 150                 155                 160
Arg Leu Leu Gln Phe Arg Asn Phe Gly Lys Lys Ser Leu Cys Glu Ile
                165                 170                 175
Lys Asn Lys Leu Lys Glu Met Lys Leu Glu Leu Gly Met Asp Leu Ser
            180                 185                 190
Gln Phe Gly Val Gly Leu Asp Asn Val Lys Glu Lys Met Lys Trp Tyr
        195                 200                 205
Ala Glu Lys Ile Arg Ser Ser Lys Asn Thr Lys Gly
    210                 215                 220
```

<210>964
<211>341
<212>PRT
<213>Chlamydia trachomatis
<400>964

```
Leu Thr Thr Trp Asp Leu Ala Met Arg Ile Val Ile Asn Gly Phe Gly
```

```
  1               5                  10                  15
Arg Ile Gly Arg Leu Val Leu Arg Gln Ile Leu Lys Arg Asn Ser Pro
            20                  25                  30
Ile Glu Val Val Ala Ile Asn Asp Leu Val Ala Gly Asp Leu Leu Thr
        35                  40                  45
Tyr Leu Phe Lys Tyr Asp Ser Thr His Gly Ser Phe Ala Pro Gln Ala
    50                  55                  60
Thr Phe Ser Asp Gly Cys Leu Val Met Gly Glu Arg Lys Ile Arg Phe
65                  70                  75                  80
Leu Ala Glu Lys Xaa Val Gln Lys Leu Pro Trp Lys Asp Leu Asp Val
                85                  90                  95
Asp Val Val Ile Glu Ser Thr Gly Leu Phe Val Asn Arg Asp Asp Ala
            100                 105                 110
Ala Lys His Leu Asp Ser Gly Ala Lys Arg Val Leu Ile Thr Ala Pro
        115                 120                 125
Ala Lys Gly Asp Val Pro Thr Phe Val Met Gly Val Asn His Gln Gln
    130                 135                 140
Phe Asp Pro Ala Asp Val Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn
145                 150                 155                 160
Cys Leu Ala Pro Leu Ala Lys Val Leu Leu Asp Asn Phe Gly Ile Glu
                165                 170                 175
Glu Gly Leu Met Thr Thr Val His Ala Ala Thr Ala Thr Gln Ser Val
            180                 185                 190
Val Asp Gly Pro Ser Arg Lys Asp Trp Arg Gly Gly Arg Gly Ala Phe
        195                 200                 205
Gln Asn Ile Ile Pro Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Leu
    210                 215                 220
Cys Leu Pro Glu Leu Lys Gly Lys Leu Thr Gly Met Ala Phe Arg Val
225                 230                 235                 240
Pro Val Ala Asp Val Ser Val Val Asp Leu Thr Val Lys Leu Ser Ser
                245                 250                 255
Ala Thr Thr Tyr Glu Ala Ile Cys Glu Ala Val Lys His Ala Ala Asn
            260                 265                 270
Thr Ser Met Lys Asn Ile Met Tyr Tyr Thr Glu Glu Ala Val Val Ser
        275                 280                 285
Ser Asp Phe Ile Gly Cys Glu Tyr Ser Ser Ile Phe Asp Ala Gln Ala
    290                 295                 300
Gly Val Ala Leu Asn Asp Arg Phe Phe Lys Leu Val Ala Trp Tyr Asp
305                 310                 315                 320
Asn Glu Ile Gly Tyr Ala Thr Arg Ile Val Asp Leu Leu Glu Tyr Val
                325                 330                 335
Gln Glu Asn Ser Lys
            340
```

<210>965
<211>145
<212>PRT
<213>Chlamydia trachomatis
<400>965

```
Ser Thr Tyr Lys Lys Thr Leu Asn Lys Gly Ser Phe Val Tyr Phe Thr
  1               5                  10                  15
Arg Asp Pro Val Ile Glu Thr Val Ile Thr Ser Arg Glu Gly Tyr Lys
            20                  25                  30
Leu Ser Ile Arg Asn Ser Lys His Leu Ser Gln Asp Pro Phe Val Val
        35                  40                  45
Glu Ala Ile Glu Val Val Arg Leu Gly Gly Thr Ser Phe Phe Arg Asn
    50                  55                  60
Cys Asp His Ser Lys Pro Phe Leu Leu Pro Ala Ser Asp Tyr Glu Val
65                  70                  75                  80
Met Glu Ile Arg Asp Ala Lys Ile Asn Leu Lys Ala Val Gly Leu Asp
                85                  90                  95
Arg Gly Val Lys Ile Val Gly Ser Arg Glu Ala Leu Leu Lys Met Pro
```

```
            100                 105                 110
Lys Val Ala Pro Ile Val Ser Val Ser Glu Asp Asn Thr Ile Val Ser
        115                 120                 125
Glu Glu Glu Val Val Ala Asp Ser Thr Val Ala Leu Pro Leu Leu His
    130                 135                 140
Leu
145
<210>966
<211>157
<212>PRT
<213>Chlamydia trachomatis
<400>966
Arg Arg Gly Ser Cys Arg Leu Tyr Cys Cys Thr Pro Ala Ser Thr Pro
  1               5                  10                  15
Val Ala Pro Met Ser Lys Lys Glu Arg Arg Lys Glu Phe Lys Asn Glu
            20                  25                  30
Lys Trp Lys Asp Lys Lys Lys Gln Gly Arg Arg Arg Asn Ser Lys Glu
        35                  40                  45
Ile Ala Asp Ala Val Gly Ser Ser Gln Glu Met Ile Asp Thr Val Ala
    50                  55                  60
Glu Glu Cys Leu Gln Glu Ser Ser Ser Glu Glu Gly Asp Phe Ser Glu
65                  70                  75                  80
Arg Arg Phe Ser Leu Ile Pro Pro Pro Thr Arg Leu Ile Ser Asp Gly
                85                  90                  95
Pro Glu Glu Pro Glu Glu Glu Ser Gln Pro Val Thr Ser Val Asp Leu
            100                 105                 110
Asn Glu Ser Leu Asn Ala Leu Val Ser Glu Ser Cys Asn Val Ile Glu
        115                 120                 125
Ser Ile Leu Ala Asp Glu Asp Thr Val Val Phe Thr Lys Glu Lys Asp
    130                 135                 140
Gln Thr Ala Glu Glu Ser Gln Glu Gln Pro Ser Phe His
145                 150                 155
<210>967
<211>100
<212>PRT
<213>Chlamydia trachomatis
<400>967
Phe Ile Asp Glu Glu Ser Tyr Leu Thr Trp Gly Ile Ser Leu Met Trp
  1               5                  10                  15
Leu Trp Ser Leu Val Lys Leu Arg Leu Leu Ser Leu Leu Arg Phe Arg
            20                  25                  30
Lys Val Arg Ala Phe Thr Ser Pro Asp Gln Tyr Glu Glu Tyr Ser Arg
        35                  40                  45
Ser Met Leu Gln Leu Phe Cys Leu Trp Lys Asp Ser Asp Ile Val Glu
    50                  55                  60
Trp Glu Asn Thr Cys Gln Met Leu Phe Gly Val Cys Ser Lys Met Ser
65                  70                  75                  80
Glu Val Cys Leu Glu Thr Arg Ser Arg Cys Lys Ser Asn Leu Arg Val
                85                  90                  95
Lys Asn Asn His
            100
<210>968
<211>137
<212>PRT
<213>Chlamydia trachomatis
<400>968
Tyr Cys Gly Met Gly Glu Tyr Leu Ser Asp Val Val Trp Cys Leu Phe
  1               5                  10                  15
Lys Asn Glu Arg Ser Leu Leu Arg Asn Lys Lys Gln Met Gln Ile Gln
            20                  25                  30
Ser Ala Ser Lys Glu Gln Ser Leu Ala Glu Trp Glu Gln Gln Val Cys
```

```
         35                  40                  45
Glu Leu Lys Ser Gln Leu Ala Ser Gln Glu Asn Ala Asn Gln Gln Glu
     50                  55                  60
Ile Ser Lys Leu Gln Ala Glu Asn His Trp Leu Gln Asn Arg Leu Ala
 65                  70                  75                  80
Glu Lys Leu Gln Gln Ala Arg His Gln Asn Asp Val Ile Asp Glu Leu
                 85                  90                  95
Lys Arg Asp Leu Val Glu Ser Val Gln Gln Met Glu Val Ser Glu Gly
            100                 105                 110
Arg Arg Leu Cys Tyr Glu His Lys Ile Arg Val Leu Glu Glu Gln Ile
        115                 120                 125
Asp Arg Phe Leu Ala Lys Glu Glu Val
    130                 135
<210>969
<211>170
<212>PRT
<213>Chlamydia trachomatis
<400>969
Met Ala Asp Leu Ile Met Gly Ile Asp Pro Gly Thr Leu Val Cys Gly
  1               5                  10                  15
Tyr Ala Leu Ile Lys Val Glu Asn Arg Tyr His Ile His Pro His Ser
            20                  25                  30
Phe Gly Lys Val Lys Leu Ser Gln Lys Leu Ala Leu Ala His Arg Tyr
        35                  40                  45
Lys Gln Leu Phe Thr Glu Ile Ser Thr Ile Leu Gln Gln Glu Ser Pro
     50                  55                  60
Lys Ala Val Val Leu Glu Thr Gln Tyr Val His Lys Asn Pro Gln Ser
 65                  70                  75                  80
Thr Ile Lys Leu Gly Met Ala Arg Gly Val Leu Leu Leu Ala Ala Ser
                 85                  90                  95
Leu Gln Asp Val Pro Val Phe Glu Tyr Ala Pro Asn Thr Ala Lys Lys
            100                 105                 110
Ala Ala Val Gly Lys Gly Asn Ala Ser Lys Lys Gln Val Gln Leu Met
        115                 120                 125
Val Ser Lys Leu Leu Arg Val Pro Asp Leu Leu Ala Glu Asp Asn Glu
    130                 135                 140
Asp Ile Ala Asp Ala Phe Ala Leu Ala Met Cys His Ala His Leu Ala
145                 150                 155                 160
Pro Tyr Gln Asp Leu Lys Lys Thr Leu Val
                165                 170
<210>970
<211>200
<212>PRT
<213>Chlamydia trachomatis
<400>970
Met Tyr Glu Tyr Ile Lys Gly Thr Leu Thr His Ile Asp Gly Ser Tyr
  1               5                  10                  15
Val Val Ile Glu Ser Phe Gly Ile Gly Tyr Ala Ile Met Leu Ser Glu
            20                  25                  30
Arg Phe Leu Val Asp Leu Arg Ala Phe Met His Gln Glu Val Leu Ile
        35                  40                  45
Tyr Val His Ser Val Ile Arg Glu Thr Glu His Val Leu Tyr Gly Phe
     50                  55                  60
Ser Ser Arg Ala Glu Arg Glu Cys Phe Arg Leu Leu Ile Ser Phe Ser
 65                  70                  75                  80
Gly Ile Gly Pro Lys Thr Gly Leu Ser Ile Leu Asn Met Phe Pro Leu
                 85                  90                  95
Gln Glu Leu Cys Ser Ile Ala Arg Leu Glu Asn Val Lys Ala Ile Ala
            100                 105                 110
Ser Val Pro Gly Ile Gly Lys Lys Thr Ala Glu Lys Leu Met Val Asp
        115                 120                 125
```

```
Leu Lys Gln Lys Leu Pro Thr Leu Met Pro Leu Tyr Leu Glu Glu Pro
    130                 135                 140
Val Val Pro Ser Ser Thr Ala Asn Ser Ser Phe Lys Glu Gly Ile Gly
145                 150                 155                 160
Ala Leu Met Asn Leu Gly Phe Ser Arg Leu Ala Ala Asp Arg Met Met
                165                 170                 175
Thr Glu Ala Val Lys Glu Leu Ser Glu Glu Ala Ser Val Ala Glu Leu
            180                 185                 190
Leu Pro Ile Ala Leu Arg Lys Ser
        195                 200
```

<210>971
<211>101
<212>PRT
<213>Chlamydia trachomatis

```
<400>971
Val Arg Ala Met Ala Gln Glu Lys Glu Arg Gln Gln Gly Glu Tyr Met
  1               5                  10                  15
Glu Gln Thr Leu Ser Ile Ile Lys Pro Asp Ser Val Gly Lys Ala His
            20                  25                  30
Ile Gly Glu Ile Ile Ala Ile Phe Glu Lys Ser Gly Leu Arg Ile Ala
        35                  40                  45
Ala Met Lys Met Val His Leu Ser Val Lys Glu Ala Glu Gly Phe Tyr
    50                  55                  60
Val Val His Lys Glu Arg Pro Phe Phe Gln Glu Leu Val Asp Phe Met
65                  70                  75                  80
Ile Ser Gly Pro Val Val Val Met Val Leu Gln Gly Glu Asn Leu Ser
                85                  90                  95
Pro Val Thr Glu Ser
            100
```

<210>972
<211>88
<212>PRT
<213>Chlamydia trachomatis

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<400>972
Arg Glu Thr Phe Phe Pro Arg Thr Gly Arg Leu Tyr Asp Leu Trp Ser
  1               5                  10                  15
Cys Cys Ser Asn Gly Thr Ala Arg Gly Lys Pro Val Ala Arg Asn Arg
            20                  25                  30
Glu Leu Met Gly Ala Thr Asn Pro Lys Glu Ala Ala Glu Gly Ser Ile
        35                  40                  45
Arg Ala Leu Phe Gly Glu Ser Ile Gly Val Asn Ala Val His Gly Ser
    50                  55                  60
Asp Ser Leu Glu Asn Ala Ala Ile Glu Val Ser Tyr Phe Phe Ala Lys
65                  70                  75                  80
Thr Glu Val Val Asn Ser Val Ala
                85
```

<210>973
<211>233
<212>PRT
<213>Chlamydia trachomatis

```
<400>973
Met Leu Ile Asn Cys Val Phe Val His Cys Glu Gly Leu Pro Ile Phe
  1               5                  10                  15
Lys Gln Leu Gln Leu Glu Glu Ala Leu Leu Arg Thr Ser Ser Gln Asn
            20                  25                  30
Phe Cys Leu Val Asn Thr His Leu Pro Glu Ala Val Val Leu Gly Ile
        35                  40                  45
Ser Arg Lys Pro Glu Arg Asp Leu His Val Glu His Leu Lys Glu Asp
    50                  55                  60
Gly Ile Pro Ile Ile Arg Arg Tyr Ser Gly Gly Gly Thr Val Phe Leu
65                  70                  75                  80
```

```
Asp Ala Asp Ser Leu Met Val Ser Trp Ile Ile Asn Ser Pro Thr Pro
                 85                  90                  95
Ser Pro Ser Ser Lys Asp Leu Leu Gln Trp Thr Gln Asp Ile Tyr Ala
            100                 105                 110
Pro Ile Phe Pro Thr Gly Phe Lys Ile Thr Glu Asn Asp Tyr Thr Phe
        115                 120                 125
Leu Asp Lys Lys Ile Gly Gly Asn Ala Gln Tyr Ile Gln Lys Tyr Arg
    130                 135                 140
Trp Val His His Thr Thr Phe Phe Trp Asn Met Asn Pro Lys Lys Leu
145                 150                 155                 160
Ala Arg Tyr Leu Pro Thr Pro Glu Ile Gln Pro Ser Tyr Arg Gln Asn
                165                 170                 175
Arg Ser His Asp Glu Phe Leu Thr Thr Ile Tyr Glu Leu Phe Asp Ser
            180                 185                 190
Arg Glu Asp Phe Leu Ser Gln Leu Lys Gln Ser Ala Ala Ser Lys Met
        195                 200                 205
Val Trp Glu Gln Gly Ser Ile Gln Thr Leu Thr Pro Met Leu Ser Leu
    210                 215                 220
Pro His Arg Lys Ala Thr Gln Ile Leu
225                 230
<210>974
<211>613
<212>PRT
<213>Chlamydia trachomatis
<400>974
Leu Gly Ser Met Trp Thr Phe Pro Val Asp Tyr Asp Val Ile Val Ile
  1               5                  10                  15
Gly Ala Gly His Ala Gly Cys Glu Ala Ala Tyr Cys Ala Ala Lys Met
             20                  25                  30
Gly Ala Ser Val Leu Leu Leu Thr Ser Asn Leu Asp Thr Ile Ala Lys
         35                  40                  45
Leu Ser Cys Asn Pro Ala Val Gly Gly Ile Gly Lys Gly His Ile Val
     50                  55                  60
Arg Glu Ile Asp Ala Leu Gly Gly Ile Met Ala Glu Ile Thr Asp Leu
 65                  70                  75                  80
Ser Gly Ile Gln Phe Arg Ile Leu Asn Gln Thr Lys Gly Pro Ala Val
                 85                  90                  95
Arg Ala Pro Arg Ala Gln Val Asp Lys Gln Leu Tyr His Ile His Met
            100                 105                 110
Lys Arg Leu Leu Glu Gln Val Pro Gly Leu His Ile Met Gln Gly Thr
        115                 120                 125
Ala Glu Ala Leu Leu Asp Asn Gly Glu Lys Val Leu Gly Val Ser Thr
    130                 135                 140
Lys Glu Gly Trp Ala Tyr Leu Gly Lys Thr Val Val Leu Ser Ser Gly
145                 150                 155                 160
Thr Phe Met Arg Gly Leu Ile His Ile Gly Thr Gln Asn Phe Ser Gly
                165                 170                 175
Gly Arg Leu Gly Asp Ala Ala Ser Leu Gly Leu Ser Glu Asp Leu Lys
            180                 185                 190
Arg Leu Gly Phe Pro Leu Gly Arg Leu Lys Thr Gly Thr Pro Ala Arg
        195                 200                 205
Leu Leu Ala Ser Ser Ile Asp Phe Ser Val Met Glu Glu Gln Pro Gly
    210                 215                 220
Asp His Asn Val Cys Phe Val His Arg Asn Glu Met Phe Val Pro Thr
225                 230                 235                 240
Leu Pro Gln Val Ser Cys His Ile Thr His Thr Thr Asp Gln Thr Lys
                245                 250                 255
Asp Leu Ile Thr Lys Asn Leu His Arg Ser Ala Leu Tyr Gly Gly Arg
            260                 265                 270
Ile Glu Gly Val Gly Pro Arg Tyr Cys Pro Ser Ile Glu Asp Lys Ile
        275                 280                 285
```

```
Val Lys Phe Ala Asp Lys Asp Arg His His Ile Phe Ile Glu Pro Glu
    290                 295                 300
Gly Leu Asn Thr Gln Glu Val Tyr Val Asn Gly Leu Ser Thr Ser Met
305                 310                 315                 320
Pro Phe Asp Val Gln Tyr Asp Ile Ile Arg Ser Val Ser Gly Leu Glu
                325                 330                 335
Asn Ala Ile Ile Thr Arg Pro Ala Tyr Ala Ile Glu Tyr Asp Tyr Val
            340                 345                 350
His Gly Asn Val Ile Phe Pro Ser Leu Glu Ser Lys Leu Ile Glu Gly
        355                 360                 365
Leu Phe Leu Cys Gly Gln Ile Asn Gly Thr Thr Gly Tyr Glu Glu Ala
    370                 375                 380
Ala Ala Gln Gly Leu Ile Ala Gly Val Asn Ala Val Asn Lys Val Leu
385                 390                 395                 400
Arg Arg Pro Pro Phe Val Pro Ser Arg Gln Glu Ser Tyr Ile Gly Val
                405                 410                 415
Met Leu Asp Asp Leu Thr Thr Gln Val Leu Asp Glu Pro Tyr Arg Met
            420                 425                 430
Phe Thr Ser Arg Ala Glu His Arg Leu Leu Leu Arg Gln Asp Asn Ala
        435                 440                 445
Gly Met Arg Leu Ser His Tyr Gly His Ser Leu Gly Leu Leu Ser Ser
    450                 455                 460
Glu Arg Tyr Ala Met Phe Gln Glu Gln Lys Ala Cys Ile Glu Gln Glu
465                 470                 475                 480
Lys Glu Arg Leu Ser Lys Thr Phe Arg Lys Tyr Gly Asp Thr Val Val
                485                 490                 495
Pro Leu Thr Arg Val Leu Cys Arg Pro Glu Val Ser Tyr Gln Gln Leu
            500                 505                 510
Leu Thr Glu Phe Pro Ala Asp Val Arg Asp Leu Gly Pro Ile Val Gly
        515                 520                 525
Ala Ser Leu Glu Met Glu Ile Lys Tyr Ser Gly Tyr Ile Ser Arg Gln
    530                 535                 540
Gln Thr Leu Ile Arg Ser Met Glu Arg Ser Glu Asn Ile Ser Ile Pro
545                 550                 555                 560
Glu Asp Ile Asp Tyr His Ser Ile Ser Ala Leu Ser Leu Glu Ala Arg
                565                 570                 575
Glu Lys Leu Ser Lys Phe Thr Pro Arg Thr Ile Gly Ser Ala Ala Arg
            580                 585                 590
Ile Ser Gly Ile Ser Val Ala Asp Ile Gln Val Leu Met Val Ser Leu
        595                 600                 605
Lys Lys Asp Ala His
    610
<210>975
<211>472
<212>PRT
<213>Chlamydia trachomatis
<400>975
Met Ala Thr Gln Thr Lys Lys Pro Gln Pro Thr Gln Leu Leu Ser Leu
  1               5                  10                  15
Pro Asn Ser Lys Glu Ser Glu Met Ile Val Leu Gly Cys Met Leu Thr
            20                  25                  30
Ser Val Asn His Leu Asn Leu Ala Ala Asn Leu Leu Gln Glu Asp Asp
        35                  40                  45
Phe Tyr Phe Leu Glu His Arg Ile Ile Phe Arg Val Leu Gln Asp Ala
    50                  55                  60
Phe Lys Ser Asp Arg Pro Met Asp Pro His Leu Thr Gly Glu Glu Leu
65                  70                  75                  80
Lys Arg Arg Asp Gln Leu Asn Ile Ile Gly Gly Pro Ser Tyr Leu Ile
                85                  90                  95
Thr Leu Ser Glu Phe Ala Gly Thr Ser Ala Tyr Ile Glu Glu Tyr Ala
            100                 105                 110
```

Glu Ile Ile Arg Ser Lys Ser Ile Leu Arg Lys Met Ile Gln Ala Ala
115 120 125
Lys Asp Ile Glu Lys Lys Ala Ala Glu Glu Pro Arg Asp Val Thr Thr
130 135 140
Ala Leu Asp Asp Ala Gln Asn Leu Leu Phe Arg Ile Ser Gln Thr Thr
145 150 155 160
Asn Leu Ala Pro Tyr Val Leu Val Ala Asp Lys Leu Lys Gly Val Ala
165 170 175
Ser Ser Lys Asp Lys Ser Phe Leu Leu Ala Leu Gln Glu Arg Gln Glu
180 185 190
Ala Phe Gln Ala Ser Ala His Asp Ser Ser Ser Pro Met Leu Ser Gly
195 200 205
Phe Pro Thr His Phe Leu Asp Leu Asp Arg Met Ile Ser Gly Phe Ser
210 215 220
Pro Ser Asn Leu Ile Ile Leu Ala Ala Arg Pro Ala Met Gly Lys Thr
225 230 235 240
Ala Leu Ala Leu Asn Ile Val Glu Asn Phe Cys Phe Asp Ser Arg Leu
245 250 255
Pro Val Gly Ile Phe Ser Leu Glu Met Thr Val Asp Gln Leu Ile His
260 265 270
Arg Ile Ile Cys Ser Arg Ser Glu Val Glu Ala Lys Lys Ile Ser Val
275 280 285
Gly Asp Ile Ser Gly Arg Asp Phe Gln Arg Val Val Ser Val Val Arg
290 295 300
Glu Met Glu Glu His Thr Leu Leu Ile Asp Asp Tyr Pro Gly Leu Lys
305 310 315 320
Ile Thr Asp Leu Arg Ala Arg Ala Arg Arg Met Lys Glu Ser Tyr Asp
325 330 335
Ile Gln Phe Leu Val Ile Asp Tyr Leu Gln Leu Ile Ser Ser Ser Gly
340 345 350
Asn Leu Arg Asn Ser Asp Ser Arg Asn Gln Glu Ile Ser Xaa Ile Ser
355 360 365
Arg Met Leu Xaa Asn Leu Ala Arg Glu Leu Asn Ile Pro Ile Leu Cys
370 375 380
Xaa Ser Gln Leu Ser Arg Glu Val Glu Asp Arg Ala Asn His Arg Pro
385 390 395 400
Leu Met Ser Asp Leu Arg Glu Ser Gly Ser Ile Glu Gln Asp Ala Asp
405 410 415
Gln Ile Met Phe Leu Leu Arg Arg Glu Tyr Tyr Asp Pro Asn Asp Lys
420 425 430
Pro Gly Thr Ala Glu Leu Ile Val Ala Lys Asn Arg His Gly Ser Ile
435 440 445
Gly Ser Ile Gln Leu Val Phe Glu Lys Asp Phe Ala Arg Phe Arg Asn
450 455 460
Tyr Ala Gly Cys Glu Phe Pro Gly
465 470

<210>976
<211>187
<212>PRT
<213>Chlamydia trachomatis
<400>976
Tyr Val Ser Leu Arg Trp Arg Leu Arg Ile Phe Lys Thr Ser Phe Arg
1 5 10 15
Ile Asn Val Met Arg Gln Phe Cys Asn Leu Leu Ser Leu Ser Arg Val
20 25 30
Trp Leu Ala Leu Leu Phe Cys Gln Glu Arg Ile Ile Thr Arg Leu Leu
35 40 45
Val Ile Phe Ala Ala Met Val Ser Asp Val Leu Asp Gly Tyr Leu Ala
50 55 60
Arg Arg Tyr Asn Ala Thr Ser Arg Leu Gly Ser Ile Leu Asp Pro Ala
65 70 75 80

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Thr Asp Lys Ile Phe Phe Leu Ile Cys Val Gly Val Leu Phe Trp Glu
                    85                  90                  95
Asn Ser Leu Gly Leu Thr His Leu Ala Leu Ile Phe Ser Arg Asp Ile
            100                 105                 110
Phe Leu Val Phe Phe Gly Phe Tyr Leu Ser Trp Val Arg Gly Trp Lys
        115                 120                 125
Gly Tyr Asp Tyr Arg Ala Leu Ser Phe Gly Lys Phe Phe Thr Val Val
    130                 135                 140
Gln Phe Phe Ile Leu Phe Gly Val Thr Ile Gly Met Glu Ile Pro Val
145                 150                 155                 160
Leu Trp Leu Ala Pro Leu Val Ile Leu Gly Ala Leu Tyr Phe Leu Glu
                165                 170                 175
Arg Val Leu Asp Tyr Arg Arg His Cys Leu Glu
            180                 185
```

<210>977
<211>535
<212>PRT
<213>Chlamydia trachomatis
<400>977

```
Asn Pro Phe Arg Ser Ser Gly Asp Xaa Phe Phe Pro Ile Tyr Arg Ser
  1               5                  10                  15
Glu Phe Ser Lys Phe Ile Pro Leu Phe Phe Leu Ala Phe Phe Val Gly
             20                  25                  30
Val Asn Tyr Ala Leu Leu Lys Thr Thr Lys Asp Ser Leu Val Leu Val
         35                  40                  45
Gly Ser Arg Ala Gly Ala Glu Val Ile Pro Phe Leu Lys Val Trp Gly
     50                  55                  60
Ile Val Pro Gly Ala Val Ile Val Thr Met Ile Tyr Gly Trp Met Ser
 65                  70                  75                  80
Arg Arg Tyr Ser Arg Gly Thr Val Phe Ile Ser Leu Val Gly Gly Phe
                85                  90                  95
Leu Gly Phe Phe Ala Leu Phe Ala Thr Val Ile Tyr Pro Ile Gly Asp
            100                 105                 110
Ala Leu His Leu Asn Lys Leu Ala Ala Lys Leu Gln Ser Ile Leu Pro
        115                 120                 125
Pro Gly Gly Arg Gly Phe Val Val Met Val Gln Tyr Trp Ser Tyr Ser
    130                 135                 140
Leu Tyr Tyr Val Met Ser Glu Leu Trp Ser Ser Val Val Leu Ser Thr
145                 150                 155                 160
Leu Phe Trp Gly Val Ala Asn His Ile Thr Ser Val Arg Glu Ala Gly
                165                 170                 175
Arg Phe Tyr Ala Leu Ile Asn Thr Gly Leu Asn Leu Ser Ser Val Phe
            180                 185                 190
Ala Gly Glu Val Ser Leu Trp Leu Gly Arg Ser Pro Val Ile Ala Phe
        195                 200                 205
Pro Met Ala Val Asp Pro Trp His Glu Met Leu Leu Asn Ile Thr Leu
    210                 215                 220
Leu Ile Val Leu Ala Gly Gly Val Ile Leu Tyr Leu Tyr Gln Lys Leu
225                 230                 235                 240
Asp Arg Leu Met Asp Glu Thr Ser Met Leu Glu Glu Gly Leu Ala Ala
                245                 250                 255
Glu Met Ser Val Ala Gln Leu Lys Lys Glu Lys Lys Arg Ser Lys Ala
            260                 265                 270
Lys Ala Lys Ser Leu Phe Ala Leu Leu Leu Arg Ser Arg Tyr Leu Leu
        275                 280                 285
Gly Ile Ala Val Val Val Leu Ser Tyr Asn Leu Val Ile His Leu Phe
    290                 295                 300
Glu Val Val Trp Lys Asp Gln Val Cys Arg Ile Tyr Ala Ser Arg Val
305                 310                 315                 320
Glu Phe Asn Ser Tyr Met Ser Arg Ile Thr Thr Leu Thr Gly Ile Val
                325                 330                 335
```

```
Ser Ala Leu Ala Gly Ile Phe Ala Ala Gly Gln Thr Ile Arg Arg Trp
            340                 345                 350
Gly Trp Thr Val Gly Ala Leu Val Pro Pro Leu Thr Ile Leu Ile Thr
        355                 360                 365
Gly Ala Leu Phe Phe Gly Ala Ile Tyr Ala Val Lys Gly Asp Ala Met
    370                 375                 380
Ile Phe Gly Gly Ile Leu Gly Ile Ser Pro Leu Val Leu Thr Ala Trp
385                 390                 395                 400
Leu Gly Gly Val Gln Asn Val Phe Ser Arg Ala Ile Lys Phe Thr Tyr
                405                 410                 415
Phe Asp Gln Thr Lys Glu Met Ala Phe Ile Pro Leu Glu Asp Asp Glu
            420                 425                 430
Lys Asn Tyr Gly Lys Ala Ala Ile Asp Gly Val Ile Ser Arg Val Gly
        435                 440                 445
Lys Ser Gly Gly Ser Leu Val Tyr Gln Gly Leu Leu Ile Ile Phe Ser
    450                 455                 460
Ser Val Ala Ala Ser Leu Asn Ala Ile Thr Ile Val Leu Leu Leu Ala
465                 470                 475                 480
Leu Gly Ser Trp Ile Phe Val Ile Ala Trp Leu Gly Arg Glu Tyr Thr
                485                 490                 495
Ala Lys Thr Glu Thr Leu Val Arg Val Asn Ala Ser Glu Glu Asp Val
            500                 505                 510
Leu Gln Glu Glu Arg Glu Ala Ser Ser Leu Val Asp Ala Glu Ser Arg
        515                 520                 525
Glu Glu Pro Ala Thr Thr Leu
    530                 535
<210>978
<211>346
<212>PRT
<213>Chlamydia trachomatis
<400>978
Leu Phe Leu Met Leu Lys Ala Ile Asn Arg Phe Ile Arg Val Cys Met
  1                 5                  10                  15
Lys Asn Phe Phe Arg Phe Leu Leu Lys Gly Phe Leu Ser Ala Cys Gly
             20                  25                  30
Leu Phe Leu Gly Val Ile Gly Ala Ala Gly Phe Ile Phe Val Leu Ser
         35                  40                  45
Ala Ser Val Leu Gly Ala Gly Asp Gly Val Leu Phe Val Asn Phe Pro
     50                  55                  60
Asn Ala Gln Gly Val Val Gln Glu Leu Gly Lys Thr Ala Pro Ile Ile
 65                  70                  75                  80
Ala Val Ile Asp Ile Asn Asp Ala Ile Ile Ala Ser Ser Gly Ala Ala
                 85                  90                  95
Lys Arg Leu Gln Ser Ala Leu Gln Pro Leu Asn Glu Ala Pro Tyr Lys
            100                 105                 110
Gly Arg Val Lys Gly Ile Leu Val Lys Ile Asp Cys Pro Gly Gly Glu
        115                 120                 125
Val Phe Glu Ile Asp Arg Met Cys Ala Thr Leu Ser Phe Trp Lys Lys
    130                 135                 140
Gln Trp Gly Ile Pro Val His Val Phe Val Ser Gly Leu Cys Ala Ser
145                 150                 155                 160
Gly Gly Tyr Tyr Val Ala Cys Ile Ala Asp Lys Ile Gly Thr Thr Ser
                165                 170                 175
Ser Ser Leu Ile Gly Ser Ile Gly Val Arg Ser Gly Pro Tyr Phe Asn
            180                 185                 190
Val Lys Glu Gly Leu Gln Arg His Gly Val Glu Thr Ala Ile Leu Thr
        195                 200                 205
Ala Gly Asp Asp Lys Ala Pro Leu Asn Pro Phe Ser Ser Trp Thr Glu
    210                 215                 220
Glu Glu Tyr Ala Glu Arg Gln Gly Ile Val Asp Ala Phe Tyr Glu Gln
225                 230                 235                 240
```

```
Phe Val Asp His Val Val Lys Tyr Arg Ser Lys Leu Ser Lys Glu Lys
                245                 250                 255
Leu Thr Lys Val Leu Gly Ala Arg Val Phe Ile Ala Lys Gln Ala Leu
            260                 265                 270
Glu Glu Gly Leu Val Asp Ala Ile Asn Gln Thr Gln Glu Gln Ala Leu
        275                 280                 285
Glu Glu Leu Ala Glu Ala Cys Gly Ile Lys Asp Asn Tyr Arg Val Ile
    290                 295                 300
Gly Leu Gly Ser Gly His Phe Leu Lys Arg Phe Ser Ser Tyr Leu Ser
305                 310                 315                 320
Asn Ser Pro Leu Val Thr Gly Lys Leu Gln Val Thr Ala Leu Pro Asp
                325                 330                 335
Gln Gln Gln Lys Ser Leu Trp Tyr Met Gly
            340                 345
```

<210>979
<211>868
<212>PRT
<213>Chlamydia trachomatis
<400>979

```
Val His Met Lys Lys Leu Phe Val Leu Asp Val Ser Gly Phe Val Phe
  1               5                  10                  15
Arg Ala Tyr Phe Ala Leu Pro Glu Met Arg Gly Pro Asn Gly Glu Ser
            20                  25                  30
Thr Gln Ala Val Phe Gly Phe Ile Arg Ser Leu Asp Lys Leu Ile Lys
        35                  40                  45
Asp Leu Ser Pro Glu Tyr Val Val Ala Val Phe Asp Gly Pro Asn Asn
    50                  55                  60
Lys Gln Ser Arg Gln Glu Leu Tyr Ala Asp Tyr Lys Ser Asn Arg Asp
65                  70                  75                  80
Arg Gln Leu Glu Asp Leu Pro Glu Gln Ile Arg Leu Val Lys Gln Tyr
                85                  90                  95
Cys Glu Leu Leu Gly Ile Ser Cys Leu Glu Glu Lys Gly Val Glu Ala
            100                 105                 110
Asp Asp Val Ile Ala Ser Ile Thr Lys Lys Ala Val Ala Asp Gly Phe
        115                 120                 125
Glu Val Cys Ile Cys Thr Ala Asp Lys Asp Leu Leu Gln Leu Val Ser
    130                 135                 140
Ser Arg Val Ser Val Phe Asn Pro Trp Lys Glu Gln Glu Ile Gln Tyr
145                 150                 155                 160
Asn Glu Val Leu Leu Gln Phe Gly Val Pro Pro Glu Gln Ile Ala Asp
                165                 170                 175
Tyr Leu Ala Leu Val Gly Asp Ser Ser Asp Asn Ile Pro Gly Val Ser
            180                 185                 190
Gly Cys Gly Pro Lys Lys Ala Gln Ala Leu Leu Lys Glu Phe Gln Ser
        195                 200                 205
Val Glu Glu Leu Val Ala Asn Thr Glu Arg Leu Ser Gly Lys Thr Lys
    210                 215                 220
Gln Met Ile Glu Asp Gln Lys Glu Thr Leu Leu Leu Ser Lys Arg Leu
225                 230                 235                 240
Ala Thr Leu His Met Asp Leu Ala Phe Pro Leu Thr Thr Glu Glu Phe
                245                 250                 255
Ala Phe Ser Pro Gln Ala Ile Asp Ser Ala Gln Leu Asn Thr Phe Tyr
            260                 265                 270
Leu Gln His Gly Phe Lys Ala Leu Val Lys His Ser Glu Thr Ala Thr
        275                 280                 285
Ser Ser Ile Ala Val Gln Thr Val Thr Asp Pro Val Thr Leu Lys Thr
    290                 295                 300
Val Leu Glu Gln Leu Lys Gly Gly Glu Val Gly Tyr Cys Ala Ala Tyr
305                 310                 315                 320
Thr Gly Glu His Leu Pro Ser Leu Gln Leu His Gly Val Ala Leu Ala
                325                 330                 335
```

```
Gly Ala Asn Gln Val Phe Tyr Ile Glu Val Ser Gly Val Gln Glu Ile
            340                 345                 350
Ala Leu Leu Lys Asp Phe Phe Ala Asp Lys Ala Thr Gln Phe Phe Gly
        355                 360                 365
Tyr Arg Ser Lys Arg Asp Asn His Ala Leu Arg Asn Ser Gly Ile Asp
    370                 375                 380
Val His Val Thr Ala Asp Leu Val Leu Ala Glu His Leu Val Ser Gly
385                 390                 395                 400
Gly Ala Lys Ile Ser Phe Gln Thr Leu Leu Met Glu Ser Gly His Ile
                405                 410                 415
Gln Glu Ala Val Phe Phe Ser Lys Glu Trp Gly Ala Gly Ser Leu Pro
            420                 425                 430
Val Gln Ser Leu Pro Arg Asp Pro Ala Gln Tyr Phe Gly Met Phe Ala
        435                 440                 445
Ser Lys Leu Leu Ala Ile Lys Asn Tyr Leu Phe Val Lys Leu Glu Glu
    450                 455                 460
Lys Gly Leu Lys Asp Ile Phe Glu Thr Val Glu Gln Pro Leu Glu Ala
465                 470                 475                 480
Val Leu Phe Ala Met Glu Cys Val Gly Met Pro Leu Asp Ser Gln Gly
                485                 490                 495
Leu Ala Val Leu Asp Arg Asp Leu Thr Lys Glu Leu Glu Glu Cys Ser
            500                 505                 510
Gln Glu Ile Tyr Asp Leu Thr Gly Cys Glu Phe Asn Ile Lys Ser Pro
        515                 520                 525
Lys Gln Leu Ser Asp Ile Leu Tyr Gln Arg Leu Gly Ile Glu Pro Val
    530                 535                 540
Asp Lys Ala Lys Ser Thr Lys Ala Glu Val Leu Glu Ala Leu Glu Asp
545                 550                 555                 560
Arg His Glu Ile Ile Pro Lys Ile Leu Met Phe Arg Ala Thr Glu Lys
                565                 570                 575
Met Leu Ser Thr Tyr Val Arg Ala Leu Pro Lys Gln Ile Asn Ala Gly
            580                 585                 590
Thr Gln Arg Ile His Pro Thr Phe Asn Gln Val Gly Thr Val Thr Gly
        595                 600                 605
Arg Leu Ser Cys Gln Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Ser
    610                 615                 620
Glu Arg Gly Arg Ser Leu Arg Glu Ala Phe Arg Val Lys Lys Asp Asn
625                 630                 635                 640
Asp Tyr Phe Leu Ala Ala Asp Tyr Ser Gln Ile Glu Leu Arg Phe Leu
                645                 650                 655
Ala His Leu Ser Gln Asp Glu Thr Leu Lys Arg Ala Phe Asn Ser Gly
            660                 665                 670
Glu Asp Ile His Ala Phe Thr Ala Ser Gln Val Phe Asn Val Pro Leu
        675                 680                 685
Glu Gln Val Thr Lys Gln Glu Arg Tyr Gln Ala Lys Ala Val Asn Phe
    690                 695                 700
Gly Leu Val Tyr Gly Gln Gln Ala Tyr Gly Leu Ser Lys Ile Leu Lys
705                 710                 715                 720
Ile Ser Val Ser Glu Ala Gln Gly Leu Met Asp Ala Tyr Phe Ala Arg
                725                 730                 735
Tyr Pro Leu Ala Ala Glu Phe Ile Thr Gln Thr Ile Glu Gln Ala Ser
            740                 745                 750
Lys Asn Gln Lys Val Thr Thr Met Leu Gly Arg Glu Arg Ile Leu Ser
        755                 760                 765
Asp Trp Glu Ser Ser Pro Gly Ala Arg Ala Ala Ser Gly Arg Leu Ala
    770                 775                 780
Val Asn Thr Arg Ile Gln Gly Ser Ala Ala Glu Leu Ile Lys Leu Ala
785                 790                 795                 800
Met Leu Asn Ile Ser Asp Glu Met Arg Ser Arg Gly Leu Lys Ser Arg
                805                 810                 815
Leu Leu Leu Gln Ile His Asp Glu Leu Leu Phe Glu Val Pro Ala Glu
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820 825 830
Glu Leu Glu Glu Met Arg Ser Leu Val Gln Glu Lys Met Glu Ser Ala
835 840 845
Met Glu Leu Ser Val Pro Leu Val Val Asn Val Leu Ile Gly Lys Asn
850 855 860
Trp Ala Glu Cys
865

<210>980
<211>218
<212>PRT
<213>Chlamydia trachomatis
<400>980
Val Cys Ser Phe Ser Cys Glu Cys Leu Asn Trp Lys Lys Leu Gly Gly
1 5 10 15
Met Leu Asp Leu Leu Lys Ile Ser Val Thr Gly Asp Pro Ser Ser Gly
20 25 30
Lys Thr Glu Ala Cys Gln Val Phe Glu Asp Leu Gly Ala Tyr Val Ile
35 40 45
Ser Ala Asp Lys Val Ser His Ser Phe Leu Val Pro Tyr Thr Ser Val
50 55 60
Gly Gln Arg Ile Ile Asp Leu Leu Gly Pro Glu Ile Ile Ile Glu Asn
65 70 75 80
Thr Leu Ser Arg Lys Ala Ile Ala Glu Lys Val Phe Gly Asn Arg Asp
85 90 95
Leu Leu Leu Ser Leu Glu Glu Ile Leu His Pro Glu Val Cys Arg Phe
100 105 110
Val Glu Glu Lys Tyr Ala His Val Val Gln Glu Gln Lys Tyr Pro Leu
115 120 125
Phe Ile Val Glu Phe Pro Leu Leu Tyr Glu Ile Gln Tyr Ala Asp Trp
130 135 140
Phe Asp Gln Val Ile Leu Ile Ser Ala Asp Thr Gly Ile Arg Lys Glu
145 150 155 160
Arg Phe Leu Lys Lys Thr Gly Gly Ser Asp Thr Ser Phe Asp Leu Arg
165 170 175
Cys Ala Arg Phe Ser Ser Leu Glu Glu Lys Ile Leu Arg Ala Asp Val
180 185 190
Val Ile Glu Asn Asn Gly Thr Lys Glu Glu Phe Arg Arg Lys Val Lys
195 200 205
Gln Cys Phe Lys Ala Leu Lys Gly Thr Ile
210 215

<210>981
<211>336
<212>PRT
<213>Chlamydia trachomatis
<400>981
Met Lys Glu Glu Ser Pro Ala Glu Val Leu Gln Lys Val Lys Glu His
1 5 10 15
Lys Arg Arg Glu Gly Pro Leu Ser Leu Glu Lys Glu Val Ser Glu Asp
20 25 30
Ser Ala Val Ala Thr Glu Glu Lys Glu Thr Ser Gln Pro Val Ala Val
35 40 45
Thr Lys Ile Ala Lys Leu Gln Arg Met Gly Ile Asn Glu Leu Asn Val
50 55 60
Leu Ala Arg Gln Tyr Gly Val Lys Asn Val Gly Ser Leu Thr Lys Ser
65 70 75 80
Gln Val Val Phe Glu Ile Val Lys Ala Lys Ser Glu Arg Pro Asp Glu
85 90 95
Phe Leu Ile Gly Glu Gly Val Leu Glu Val Leu Pro Asp Gly Phe Gly
100 105 110
Phe Leu Arg Ser Pro Thr Tyr Asn Tyr Leu Pro Ser Ala Glu Asp Ile
115 120 125

Tyr Val Ser Pro Ala Gln Ile Arg Arg Phe Asp Leu Lys Lys Gly Asp
130 135 140
Thr Ile Val Gly Thr Ile Arg Ser Pro Lys Glu Lys Glu Lys Tyr Phe
145 150 155 160
Ala Leu Leu Lys Val Asp Lys Ile Asn Gly Ser Thr Pro Asp Lys Ala
165 170 175
Lys Glu Arg Val Leu Phe Glu Asn Leu Thr Pro Leu His Pro Asn Glu
180 185 190
Arg Leu Ile Met Glu Ile Gly Lys Glu Asn Leu Ala Glu Arg Val Leu
195 200 205
Asp Leu Thr Ala Pro Ile Gly Lys Gly Gln Arg Gly Leu Ile Val Ala
210 215 220
Pro Pro Arg Ser Gly Lys Thr Val Ile Leu Gln Ser Ile Ala His Ala
225 230 235 240
Ile Ala Val Asn Asn Pro Asp Ala Glu Leu Ile Val Leu Leu Ile Asp
245 250 255
Glu Arg Pro Glu Glu Val Thr Asp Met Ile Arg Gln Val Arg Gly Glu
260 265 270
Val Val Ala Ser Thr Phe Asp Glu Gln Pro Asp Arg His Ile Gln Val
275 280 285
Thr Glu Met Val Ile Glu Lys Ala Arg Arg Leu Val Glu His Gly Lys
290 295 300
Asp Val Val Ile Leu Leu Asp Ser Ile Thr Arg Leu Ala Arg Ala Tyr
305 310 315 320
Asn Thr Val Gln Pro His Ser Gly Lys Ile Leu Thr Gly Gly Val Asp
325 330 335

<210>982
<211>128
<212>PRT
<213>Chlamydia trachomatis
<400>982
Thr Ser Ala Leu His Lys Pro Lys Arg Phe Phe Gly Ala Ala Arg Asn
1 5 10 15
Ile Glu Gly Gly Gly Ser Leu Thr Ile Leu Ala Thr Ala Leu Ile Asp
20 25 30
Thr Gly Ser Arg Met Asp Glu Val Ile Phe Glu Glu Phe Lys Gly Thr
35 40 45
Gly Asn Met Glu Leu Val Leu Asp Arg His Leu Ser Asp Arg Arg Ile
50 55 60
Tyr Pro Ala Ile Asp Leu Ile Lys Ser Gly Thr Arg Lys Glu Glu Leu
65 70 75 80
Leu Tyr His Pro Gly Glu Leu Glu Lys Val Arg Leu Phe Arg Gln Ala
85 90 95
Ile Ala Gly Leu Thr Ala Ile Asp Ala Met His Leu Leu Leu Gly Arg
100 105 110
Leu Lys Lys Thr Asn Ser Asn Thr Glu Phe Leu Leu Ser Leu Lys Asp
115 120 125

<210>983
<211>450
<212>PRT
<213>Chlamydia trachomatis
<400>983
Asn Tyr Phe Leu Trp Trp Arg Gly Gln Met Ala Gly Arg Arg Thr Lys
1 5 10 15
Glu Glu Gln Ile Asn Arg Lys Arg Ser His Phe Tyr Arg Asp Asn Val
20 25 30
Gly Val Ile Val Leu Cys Gly Gly Glu Gly Lys Arg Leu Ser Pro Leu
35 40 45
Thr Cys Trp Arg Cys Lys Pro Thr Val Ser Phe Gly Gly Arg Tyr Lys
50 55 60
Leu Ile Asp Val Pro Ile Ser His Ala Phe Ala Ser Glu Phe Ser Lys

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65                  70                  75                  80
Ile Phe Val Ile Gly Gln Tyr Leu Thr Tyr Thr Leu Gln Gln His Leu
                85                  90                  95
Phe Lys Thr Tyr Phe Tyr His Gly Val Met Gln Asp Gln Ile His Leu
            100                 105                 110
Leu Val Pro Glu Arg Arg Asp Gly Ser Gln Val Trp Tyr Gln Gly Thr
        115                 120                 125
Ala Asp Ala Ile Arg Gln Asn Leu Leu Tyr Leu Gln Asp Ser Arg Val
    130                 135                 140
Glu Tyr Phe Leu Ile Leu Ser Gly Asp Gln Leu Tyr Asn Met Asp Phe
145                 150                 155                 160
Arg Ser Ile Val Asp Tyr Ala Ile Asp Ala Gln Ala Asp Met Val Ile
                165                 170                 175
Ala Ser Gln Pro Val Ser Asp Lys Asp Val Ser Arg Phe Gly Val Leu
            180                 185                 190
Lys Val Asp Asp Glu Ser Lys Leu Ile Asp Phe Tyr Glu Lys Pro Gln
        195                 200                 205
Ser Glu Glu Ile Leu Lys His Phe Arg Leu Ser Asn Thr Ala Met Lys
    210                 215                 220
Lys Phe Gly Leu Asp Pro Gln His Gly Asn Phe Leu Gly Ser Met Gly
225                 230                 235                 240
Ile Tyr Leu Phe Arg Lys Asp Cys Leu Phe Gln Leu Leu Leu Glu Glu
                245                 250                 255
Thr Gly Asp Asp Phe Gly Lys Glu Leu Ile His Arg Gln Met His Arg
            260                 265                 270
Gly Lys Thr Val Ala Tyr Leu Tyr Asp Gly Tyr Trp Thr Asp Ile Gly
        275                 280                 285
Thr Ile Glu Ser Tyr Tyr Glu Ala Asn Met Ala Leu Thr Gln Arg Pro
    290                 295                 300
Ser His Asn Ile Arg Gly Phe Asn Cys Tyr Asp Asp Gly Gly Ile Ile
305                 310                 315                 320
Tyr Ser Lys Asn Asn His Leu Pro Gly Ala Ile Ile Ser Asp Ser Arg
                325                 330                 335
Ile Ser Ser Ser Leu Leu Cys Glu Gly Ala Met Ile Glu Ser Gly Gln
            340                 345                 350
Val Ser Asn Ser Val Val Gly Val Arg Gly Val Ile Gly Gln Gly Ser
        355                 360                 365
Val Phe Asp Arg Ser Ile Met Met Gly Ser Asp Ser Tyr Gly Ser Glu
    370                 375                 380
Ser Phe Pro Leu Gly Ile Gly Lys Asn Cys Glu Ile His Lys Thr Ile
385                 390                 395                 400
Ile Asp Glu Asn Cys Cys Ile Gly Asn Gly Val Arg Leu Gln Asn Leu
                405                 410                 415
Gln Gly His Lys Asp Tyr Asp Ser Pro Asp Gly Lys Leu Val Val Arg
            420                 425                 430
Asp Gly Ile Ile Ile Val Pro Arg Gly Thr Gln Ile Pro Asp Asn Tyr
        435                 440                 445
Val Phe
    450
<210>984
<211>252
<212>PRT
<213>Chlamydia trachomatis
<400>984
Phe Phe Tyr Gln Ala Arg Gly Phe Met Arg Ile Phe Ala Leu Ala Asp
  1               5                  10                  15
Leu His Leu Ser Leu Gly Val Pro Glu Lys Thr Met Glu Val Phe Gly
            20                  25                  30
Glu Pro Trp Val Gly Tyr His Gln Lys Ile Glu Lys His Trp Arg Asp
        35                  40                  45
Ile Val Ser Ser Asp Asp Ile Val Cys Leu Pro Gly Asp Ile Ser Trp
```

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     50                  55                  60
Ala Met Arg Leu Glu Glu Ala Gln Val Asp Phe Arg Phe Leu Gly Ala
 65                  70                  75                  80
Leu Pro Gly Ile Lys Tyr Met Ile Arg Gly Asn His Asp Tyr Trp Ser
                 85                  90                  95
Ser Ala Ser Ser Ala Lys Leu Ala Asn Val Leu Pro Glu Thr Leu His
            100                 105                 110
Tyr Leu Ser Lys Gly Tyr Val Leu Leu Asn Ala His Gln Ala Ile Val
        115                 120                 125
Gly Val Arg Leu Trp Asp Ser Ser Asp Ile Cys Leu His Trp Glu Thr
    130                 135                 140
Gln His Asp Gly Pro Gln Arg Val Leu Thr Glu Gln Asp Asp Lys Ile
145                 150                 155                 160
Phe Leu Arg Glu Tyr Gly Arg Leu Glu Arg Ala Leu Lys Glu Leu Pro
                165                 170                 175
Ala Ser Val Glu Asp Val Leu Val Met Thr His Tyr Pro Pro Val Ser
            180                 185                 190
Asn Asp Gly Thr Pro Gly Arg Val Ser Asn Leu Leu Glu Met Asp Gly
        195                 200                 205
Arg Val Ser Arg Cys Leu Phe Gly His Leu His Lys Val Pro Arg Pro
    210                 215                 220
Phe Pro Gly Phe Gly Asn Ile Arg Gly Ile Glu Tyr Thr Leu Val Ala
225                 230                 235                 240
Ala Asp Tyr Val Asp Phe Ile Pro Gln Val Val Ser
                245                 250
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<210>985
<211>106
<212>PRT
<213>Chlamydia trachomatis
<400>985

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Leu Lys Ile Leu Ser Gly Lys Phe Lys Gly Lys Ser Leu Lys Thr Phe
  1                 5                  10                  15
Ser Asn Pro Ser Val Arg Pro Thr Cys Gly Val Val Lys Glu Ala Val
             20                  25                  30
Phe Asn Ile Cys Ala Asn His Ile Val Gly Ala Arg Phe Leu Asp Leu
         35                  40                  45
Phe Ala Gly Ser Gly Ser Met Gly Phe Glu Ala Ile Ser Arg Gly Ala
     50                  55                  60
Glu Ser Ala Thr Phe Val Asp Ser Ser Val Glu Ala Val Arg Leu Ile
 65                  70                  75                  80
Arg Ala Asn Leu Ala Leu Leu Asp Ser Asn Leu Pro Val His Ile Leu
                 85                  90                  95
Lys Gln Asp Val Arg Ser Ala Phe Tyr Ala
            100                 105
```

<210>986
<211>276
<212>PRT
<213>Chlamydia trachomatis
<400>986

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Ala Lys Arg Asn His Ser Gly Trp Ile Lys Ile Phe Leu Leu Asn Met
  1                 5                  10                  15
Ile Arg Gly Ser Ser Leu Ile Ser Glu Val Arg Val Lys Phe Lys Tyr
             20                  25                  30
Leu Arg Pro Leu Ser Phe Leu Val Leu Val Ile Val Ala Phe Cys Tyr
         35                  40                  45
Gly Cys Ser Arg Glu Lys Gln Glu Val Leu Val Gly Arg Asp Ala Thr
     50                  55                  60
Trp Phe Pro Gln Gln Phe Gly Ile Tyr Thr Ser Gly Ile Asn Ala Phe
 65                  70                  75                  80
Val Asn Asp Leu Val Ser Glu Ile Asn Tyr Lys Glu Gly Leu Asn Ile
                 85                  90                  95
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Ser Ile Val Asn Gln Asp Trp Val His Leu Phe Glu Asn Leu Asp Asp
100 105 110
Lys Lys Thr Ser Gly Ala Phe Thr Ser Ala Ser Pro Ser Ile Glu Met
115 120 125
Leu Ala Arg Tyr Gln Phe Ser Asp Pro Val Leu Leu Thr Gly Pro Val
130 135 140
Leu Val Val Leu Glu Asn Ser Pro Tyr His Ser Leu Gln Asp Leu Glu
145 150 155 160
Gly Lys Leu Ile Gly Val Tyr Lys Phe Asp Ser Ser Val Leu Ile Ala
165 170 175
Gln Asn Val Pro Asn Ala Val Ile Asp Ser Tyr Gln His Ile Pro Val
180 185 190
Ala Leu Glu Ala Leu Ser Thr Gln Arg Tyr Asp Ala Leu Leu Val Pro
195 200 205
Val Ile Glu Ala Thr Ala Leu Val Glu Thr Ala Tyr Lys Gly Arg Leu
210 215 220
Arg Ile Ala Ser Glu Pro Leu Asn Glu Glu Gly Leu Arg Leu Val Val
225 230 235 240
Leu Arg Gly Gly Gly Ser Asp Ser Leu Leu Glu Gly Phe Asn Ala Gly
245 250 255
Leu Ala Lys Ile Arg Arg Ser Gly Arg Tyr Lys Ala Ile Lys Met Gln
260 265 270
Ser Arg Leu Pro
275

<210>987
<211>217
<212>PRT
<213>Chlamydia trachomatis
<400>987
Asn Lys Glu Phe Lys Glu Thr Val Val Thr Tyr Leu Leu Ala Asn Phe
1 5 10 15
Gly Gly Pro Arg Thr Ser Gln Glu Ile Val Ser Phe Leu Gln Ala Leu
20 25 30
Leu Thr Asp Arg Asp Val Thr Gly Gly Met Ile Pro Ser Val Leu His
35 40 45
Arg Pro Leu Phe Ser Tyr Ile Ala Lys Arg Arg Ala Pro His Val Ala
50 55 60
Arg Gln Tyr Ala Tyr Leu Gly Gly Gly Ser Pro Ile Phe Gln Asp Thr
65 70 75 80
Glu Arg Leu Ala Gln Asn Leu Ser Gln Glu Leu Gln Ala Ser Val Ile
85 90 95
Pro Phe His Thr Tyr Leu Pro Glu Thr His Arg Glu Thr Leu Gln Ala
100 105 110
Leu Gln Glu Ser Gln Gly Ser Ile Val Gly Ile Pro Leu Phe Pro His
115 120 125
Tyr Thr Phe Ala Val Thr Gly Ser Ile Ile Arg Phe Phe Leu Gln His
130 135 140
Leu Pro Glu Lys Pro Ile Ser Trp Ile Thr Gln Phe Gly Val His Pro
145 150 155 160
Gln Phe Val Ser Cys Met Gln Gln His Ile Arg Asp Cys Leu Ala Ala
165 170 175
Gln Xaa Ile Ala Val Glu Asp Cys Tyr Phe Leu Phe Ser Val His Gly
180 185 190
Leu Pro Gln Arg His Ile Arg Leu Gly Asp Pro Tyr Ala Gln Gln Cys
195 200 205
Gln Ala Ser Phe Glu Ala Leu Arg Arg
210 215

<210>988
<211>121
<212>PRT
<213>Chlamydia trachomatis

<400>988
Glu Ile Leu Met Leu Ser Asn Val Arg Leu Leu Ser Lys His Tyr Gly
1 5 10 15
Gly Glu Leu Glu Gly Glu Ile Ala Phe Gln Ser Lys Phe Gly Ile Gly
20 25 30
Lys Trp Leu Asp Pro Ser Thr Gln Glu Val Cys Gln Ser Leu Arg Thr
35 40 45
Lys Lys Arg Tyr Ile Val Ile Val Pro Phe Gly Phe Val Ser Asp His
50 55 60
Ile Glu Thr Leu Tyr Glu Ile Asp His Leu Tyr Val Pro Ile Leu Leu
65 70 75 80
Gln Lys Glu Tyr Arg Val Val Arg Ile Pro Ala Ile Asn Ala Ser Ser
85 90 95
Arg Trp Val Ser Ser Leu Ala Ala Ile Val Arg Ser Ser Pro Gln Glu
100 105 110
Thr Ser Leu Glu Pro Leu Leu Met Pro
115 120
<210>989
<211>337
<212>PRT
<213>Chlamydia trachomatis
<400>989
Glu Cys Gly Ile Ser Met Lys Ser Arg Asn Ala Gln Ser Ile Leu Glu
1 5 10 15
Ser Leu Cys Lys Lys Thr His Arg Leu Leu Leu Arg Tyr Leu Leu Lys
20 25 30
Gln Thr Leu Leu Val Ala Leu Gly Met Thr Leu Met Val Ala Glu Leu
35 40 45
Gly Ile Phe Leu Tyr Phe Phe Leu Phe Ser Gly Lys Thr Leu Leu Pro
50 55 60
Ala Phe Cys Leu Ala Cys Phe Val Leu Thr Ile Phe Ile Cys Leu Val
65 70 75 80
Ile Arg Leu Tyr Ile Leu Ser Lys Lys Thr Glu Phe Phe Asp Lys Leu
85 90 95
Leu Ala Asp Phe Val His Gln Ala Gln Val Ile Phe Lys Lys Lys Asn
100 105 110
Met Met Glu Glu His Pro Glu Ile Ala Ala Ala Val Thr Gln Leu Ser
115 120 125
Leu Val Met Gln Asn Gln Glu Tyr Phe Val Phe Cys Asn Leu Leu Lys
130 135 140
Ile Val Pro Pro Tyr Asp Ser Ile Lys Lys Phe Ser Cys Phe Cys Phe
145 150 155 160
Trp Lys Asp Tyr Phe Ser Phe Arg Glu Met Leu Leu Gln Lys Ala Ile
165 170 175
Asp Leu Tyr Leu Leu Val Val Gln Ala Ile Pro Thr Asp Leu Gly Ala
180 185 190
His Val Ser Leu Ala Asp Ala Tyr Val Ser Leu Ser Gly Leu Tyr Ala
195 200 205
Asp Pro Arg Lys Tyr Thr Glu Phe Asp Thr Lys Tyr Trp Val Pro Pro
210 215 220
Gly Arg Tyr Gly Glu Asp Ile Gln Glu Lys Phe Phe Ala Thr Ala His
225 230 235 240
Arg Ala Thr Glu Glu Phe Lys Ile Leu Asn Glu Tyr Ala Pro Gly Asn
245 250 255
Val Trp Val His Thr Gln Leu Ala Tyr Ser Tyr His Asp Leu Gln Met
260 265 270
Pro Lys Lys Glu Ile Arg Glu Tyr Glu Ile Val Leu Lys Leu Lys Pro
275 280 285
His Asp Ala Asn Thr Ile Met Lys Leu Gly Ile Leu Tyr Phe Gln Gln
290 295 300
Gly Met Asn Ala Lys Gly Leu Gln Val Tyr Glu Gln Leu Arg Lys Val

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305                 310                 315                 320
Asp Leu Lys Lys Ser Lys Lys Leu Ile Lys Phe Tyr Gly Val Val Ala
                325                 330                 335
Lys

<210>990
<211>228
<212>PRT
<213>Chlamydia trachomatis
<400>990
Arg Thr Val Cys Phe Tyr Arg Val Arg Lys Thr Met Phe Glu Ile Leu
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Arg Lys Lys Ile Ser Ser Tyr Ser Val Val Leu Phe Cys Leu Val Val
            20                  25                  30
Leu Ser Ile Phe Leu Ser Gly Lys Ile Val Val Asn Val Lys Thr Tyr
        35                  40                  45
Arg Val Glu Arg Gln Asn Ser Leu Val Leu Leu Ser Arg Ser Val Glu
    50                  55                  60
Ala Ala Tyr Ser Arg Gly Ile Phe Pro Pro Glu Thr Ala Met Pro Met
65                  70                  75                  80
Leu Glu Gln Ala Tyr Arg Arg Gly Gly Lys Glu Ala Val Ser Tyr Ala
                85                  90                  95
Gly Phe Leu Ala Ser Cys Phe His Ile His Asn Asp Pro Leu Arg Gly
            100                 105                 110
Ala Tyr Tyr Ser Gly Leu Ala Tyr Gln His Gly Thr His Leu Gln Leu
        115                 120                 125
Pro Ser Pro Gln His Ile Leu Leu Lys Glu Ile Ala Asp Ala His Ala
    130                 135                 140
Thr Lys Gln Tyr Gln Glu Val Leu Asp Lys Ser Arg Glu Leu Leu Ser
145                 150                 155                 160
Ser Ile Ser Ser Ser Lys Asp Phe Pro Met Leu Arg Phe Leu Thr Leu
                165                 170                 175
Leu Arg Met Ile Glu Val Lys Glu Ser Leu Asn Gln Asp Phe Ser Leu
            180                 185                 190
Glu Leu Thr Glu Leu Lys Ala Leu Pro Gly Phe Glu Asp Tyr Glu Gln
        195                 200                 205
Leu Tyr Lys Asp Gly Val Trp Thr Ile Ser Lys Arg Tyr Ser Ser Leu
    210                 215                 220
Arg Ala Leu Tyr
225
<210>991
<211>244
<212>PRT
<213>Chlamydia trachomatis
<400>991
Ser Met Leu Arg Val Leu Ala Tyr Arg Gln Val Ser Phe Ser Lys Phe
  1               5                  10                  15
Pro His Leu Phe Lys Ser Phe Val Ser Leu Leu Ser Ser Leu Lys Gln
            20                  25                  30
His Tyr Ser Phe Met Leu Pro Gly Asp Pro Leu Pro Lys Lys Lys Ala
        35                  40                  45
Leu Met Leu Thr Phe Asp His Ala Ser Val Asp Phe Tyr Thr His Val
    50                  55                  60
Phe Pro Leu Leu Gln Asn Leu Gln Ile Pro Ala Val Ile Gly Val Ala
65                  70                  75                  80
Trp Arg Tyr Val Ala Asp Leu Glu Gly Glu Asp Leu Pro Ile Asp Val
                85                  90                  95
Arg Ile Ala Pro Ser Asp Phe Leu Ala Phe Gln Asp Glu Ile Phe Ser
            100                 105                 110
Tyr His Gln Pro Phe Cys Ser Val Arg Glu Leu Cys His Met Ala Ala
        115                 120                 125
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Ser Pro Leu Val Arg Phe Ala Ser Ser Gly Phe Ala Ile Arg Asn Leu
    130                 135                 140
Lys Tyr Ala Pro Pro Tyr Leu Asp Thr Glu Ile Leu Leu Ser Lys Ile
145                 150                 155                 160
Leu Leu Glu Asn Ala Ile Gln Ser Pro Val Glu Ser Phe Phe Phe Pro
                165                 170                 175
Leu Gly Lys Ser Asp Val Val Ser Gln His Phe Val Gln Glu Thr Tyr
            180                 185                 190
Arg Tyr Ser Phe Val Leu Gly Asn Thr Ala Ser Phe Ser Tyr Pro Thr
        195                 200                 205
Gln Ser Leu His Gly Ile Pro Arg Ile Asp Met Pro Leu Asp Ser Gln
    210                 215                 220
Arg Val Pro Ser Leu Tyr Gln Leu Ser Tyr Arg His Leu Lys Gln Phe
225                 230                 235                 240
Leu Val Leu Arg
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<210>992
<211>729
<212>PRT
<213>Chlamydia trachomatis
<400>992

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Arg Arg Gln Arg Met Ile Asp Lys Ile Ile Arg Thr Val Leu Val Leu
  1               5                  10                  15
Ser Leu Phe Leu Leu Tyr Trp Ser Ser Asp Leu Leu Glu Lys Asp Val
             20                  25                  30
Lys Ser Ile Lys Arg Glu Leu Lys Ala Leu His Glu Asp Val Leu Glu
         35                  40                  45
Leu Val Arg Ile Ser His Gln Gln Lys Asn Trp Val Gln Ser Ile Asp
     50                  55                  60
Phe Ser Val Ser Pro Glu Ile Ser Val Leu Lys Asp Cys Gly Asp Pro
 65                  70                  75                  80
Ala Phe Pro Asn Leu Leu Cys Glu Asp Pro Tyr Val Glu Lys Val Val
                 85                  90                  95
Pro Ser Leu Leu Lys Glu Gly Phe Val Pro Lys Gly Ile Leu Arg Thr
            100                 105                 110
Ala Gln Val Gly Arg Pro Asp Asn Leu Ser Pro Phe Asn Gly Phe Val
        115                 120                 125
Asn Ile Val Arg Phe Tyr Glu Leu Cys Val Pro Asn Leu Ala Val Glu
    130                 135                 140
His Val Gly Lys Tyr Glu Glu Phe Ala Pro Ser Leu Ala Leu Lys Ile
145                 150                 155                 160
Glu Glu His Tyr Val Glu Asp Gly Ser Gly Asp Lys Glu Phe His Ile
                165                 170                 175
Tyr Leu Arg Pro Asn Met Phe Trp Glu Pro Ile Asp Pro Thr Leu Phe
            180                 185                 190
Pro Lys Asn Ile Thr Leu Ala Asp Thr Phe Leu Arg Pro His Pro Val
        195                 200                 205
Thr Ala His Asp Val Lys Phe Tyr Tyr Asp Val Val Met Asn Pro Tyr
    210                 215                 220
Val Ala Glu Met Arg Ala Val Ala Met Arg Ser Tyr Phe Glu Asp Met
225                 230                 235                 240
Val Ser Val Arg Val Glu Asn Asp Leu Lys Leu Ile Val Arg Trp Arg
                245                 250                 255
Ala His Thr Val Arg Asn Glu Gln Gly Glu Glu Glu Lys Lys Val Leu
            260                 265                 270
Tyr Ser Ala Phe Ala Asn Thr Leu Ala Leu Gln Pro Leu Pro Cys Phe
        275                 280                 285
Val Tyr Gln Tyr Phe Ala Asn Gly Glu Lys Ile Val Pro Glu Asp Ser
    290                 295                 300
Asp Pro Asp Thr Tyr Arg Lys Asp Ser Val Trp Ala Gln Asn Phe Ser
305                 310                 315                 320
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Ser His Trp Ala Tyr Asn Tyr Ile Val Ser Cys Gly Ala Phe Arg Phe
325 330 335
Ala Gly Met Asp Asp Glu Lys Ile Thr Leu Val Arg Asn Pro Asn Tyr
340 345 350
His Asn Pro Phe Ala Ala Leu Val Glu Lys Arg Tyr Ile Tyr Met Lys
355 360 365
Asp Ser Thr Asp Ser Leu Phe Gln Asp Phe Lys Ala Gly Lys Val Asp
370 375 380
Ile Ala Tyr Phe Pro Pro Asn His Val Asp Asn Leu Ala Ser Phe Met
385 390 395 400
Gln Thr Ser Ala Tyr Lys Glu Gln Ala Ala Arg Gly Glu Ala Ile Leu
405 410 415
Glu Lys Asn Ser Ser Asp Arg Ser Tyr Ser Tyr Ile Gly Trp Asn Cys
420 425 430
Leu Ser Leu Phe Phe Asn Asn Arg Ser Val Arg Gln Ala Met Asn Met
435 440 445
Leu Ile Asp Arg Asp Arg Ile Ile Glu Gln Cys Leu Asp Gly Arg Gly
450 455 460
Val Ser Val Ser Gly Pro Phe Ser Leu Cys Ser Pro Ser Tyr Asn Arg
465 470 475 480
Asp Val Glu Gly Trp Gln Tyr Ser Pro Glu Glu Ala Ala Arg Lys Leu
485 490 495
Glu Glu Glu Gly Trp Ile Asp Ala Asp Gly Asp Gly Ile Arg Glu Lys
500 505 510
Val Ile Asp Gly Val Val Val Pro Phe Arg Phe Arg Leu Cys Tyr Tyr
515 520 525
Val Lys Ser Val Thr Ala Arg Thr Ile Ala Glu Tyr Val Ala Thr Val
530 535 540
Cys Lys Glu Val Gly Ile Glu Cys Cys Leu Leu Gly Leu Asp Met Ala
545 550 555 560
Asp Tyr Ser Gln Ala Leu Glu Glu Lys Asn Phe Asp Ala Ile Leu Ser
565 570 575
Gly Trp Cys Leu Gly Thr Pro Pro Glu Asp Pro Arg Ala Leu Trp His
580 585 590
Ser Glu Gly Ala Leu Glu Lys Gly Ser Ala Asn Ala Val Gly Phe Cys
595 600 605
Asn Glu Glu Ala Asp Arg Ile Ile Glu Gln Leu Ser Tyr Glu Tyr Asp
610 615 620
Ser Asn Lys Arg Gln Ala Leu Tyr His Arg Phe His Glu Val Ile His
625 630 635 640
Glu Glu Ser Pro Tyr Ala Phe Leu Tyr Ser Arg Gln Tyr Ser Leu Val
645 650 655
Tyr Lys Glu Phe Val Lys Asn Ile Phe Val Pro Thr Glu His Gln Asp
660 665 670
Leu Ile Pro Gly Ala Gln Asp Glu Thr Val Asn Leu Ser Met Leu Trp
675 680 685
Val Asp Lys Glu Glu Gly Arg Ser Pro Leu Tyr Leu Lys Thr Ser Ala
690 695 700
Phe Asp Ser Leu Asn Ala Leu Cys Tyr His Leu Cys Glu Phe Cys Asp
705 710 715 720
Ser Gln Cys Cys Ser Arg Arg Pro Ala
725

<210>993
<211>492
<212>PRT
<213>Chlamydia trachomatis
<400>993
Asp Leu Arg Tyr Ile Leu Lys Arg Leu Leu Leu Ile Pro Leu Thr Leu
1 5 10 15
Phe Ala Ile Ile Ser Val Asn Phe Val Ile Leu Asn Ala Ala Pro Gly
20 25 30

Asp Leu Leu Glu Glu His Ser Val Asp Ala Gln Gly Glu Ala Gly Arg
35 40 45
Ser Asp Lys Ile Arg Thr Tyr Lys Gly Pro Asp Arg Tyr Leu Gln Phe
50 55 60
Arg Glu His Tyr Gly Leu Thr Leu Pro Ile Phe Phe Asn Thr Arg Pro
65 70 75 80
Gln Ile Ser Arg Ser Glu Leu Arg Ala Gly Ile Gln Glu Ile Ile Asp
85 90 95
Gly Thr Ile His Lys Lys Ser Lys Thr Gly Ser Ile Thr Asn Ile Lys
100 105 110
Val Tyr Trp Gly Asp Cys Ala Lys Phe Ile Met Pro Ala Leu Leu Ala
115 120 125
Glu Ala Glu Asp Ser Ser Lys Glu Asp Ile Tyr Arg His Val Ala Ala
130 135 140
Asp Leu Phe Ile Arg Gly Gly Ile Arg Gln Gly Ile Val Glu Pro Arg
145 150 155 160
Leu Leu Glu Glu Gln Arg Glu Tyr Asn Gln Lys Val Ser Lys Ser Asn
165 170 175
Ala Glu Leu Val Arg Leu Leu Asn Glu Asp Asn Ile Glu Val Lys Val
180 185 190
Ala Ala Leu Gln Glu Trp Val Glu Gln Glu Gly Gly Arg Gly Gln Leu
195 200 205
Met Arg Arg Asp Leu Trp Arg Ile Phe Phe Leu Glu Thr Arg Phe Ala
210 215 220
Lys Tyr Leu Ser Arg Ile Val Arg Leu Asp Phe Gly Thr Leu Arg Asn
225 230 235 240
Asp Cys His Lys Thr Val Val Ser Glu Val Ile Lys Arg Leu Gly Ser
245 250 255
Ser Leu Ile Leu Ser Leu Leu Pro Met Ile Val Val Phe Ile Leu Cys
260 265 270
Gln Val Phe Gly Met Ile Met Ala Val Asn Lys Asn His Trp Ile Asp
275 280 285
His Leu Leu Asn Phe Leu Phe Leu Ile Leu Phe Ser Ile Pro Val Phe
290 295 300
Val Ala Val Pro Trp Ile Ile Asp Asn Phe Val Leu Asn Lys Thr Val
305 310 315 320
Pro Phe Thr Ser Ile Ser Met Pro Tyr Ser Gly Leu Cys Ser Ser Pro
325 330 335
Glu Ile Phe Lys Glu Met Thr Ser Phe Glu Lys Leu Thr Asp Ile Val
340 345 350
Leu His Ser Phe Leu Pro Phe Cys Ala Val Ser Tyr Gly Ala Phe Ala
355 360 365
Ala Gln Ser Arg Leu Ser Arg Ala Val Phe Leu Glu Val Leu Gly Glu
370 375 380
Asp His Ile Ser Ala Leu Arg Ala Arg Gly Ile Ser Gln Tyr Asp Ile
385 390 395 400
Leu Val Arg His Val Gly Lys Asn Ser Ala Ala Thr Leu Ile Thr Ser
405 410 415
Leu Ala Ser Ser Leu Ser Ala Leu Leu Gly Gly Ala Leu Val Val Glu
420 425 430
Thr Leu Phe Asp Ile Asp Gly Phe Gly Lys Phe Phe Tyr Gln Ala Ile
435 440 445
Leu Asn Arg Asp His Asn Val Val Met Phe Ser Val Ile Met Gly Ser
450 455 460
Val Ile Ser Leu Ile Gly Tyr Leu Ile Gly Asp Ile Cys Tyr Val Leu
465 470 475 480
Leu Asp Pro Arg Val Gln Leu Glu Glu Arg Lys Val
485 490

<210>994
<211>584
<212>PRT

<213>Chlamydia trachomatis
<400>994

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Lys Lys Gly Arg Cys Glu Met Lys Glu Pro Gln Thr Ser Tyr Gln Arg
 1               5                  10                  15
Phe Phe Arg Ala Tyr Asn Arg Arg Ala Leu Pro Ser Ile Ala Leu Lys
            20                  25                  30
Phe Phe Ile Gly Leu Met Leu Ile Gly Ile Tyr Ala Pro Leu Phe Ala
        35                  40                  45
Ser Ser Lys Pro Ile Leu Val Arg Trp His Gly Glu Trp Tyr Ser Pro
    50                  55                  60
Leu Phe Arg Tyr Leu Leu Phe Pro Gly Phe Tyr Thr Lys Ser Ile Asp
65                  70                  75                  80
Leu Phe Phe Asn Val Leu Met Leu Thr Leu Pro Phe Phe Ile Leu Gly
                85                  90                  95
Phe Arg Tyr Leu Ser Gly Val Trp Lys Lys Leu Phe Leu Gly Val Val
            100                 105                 110
Thr Gly Ile His Ile Ala Val Phe Ser Phe Ala Leu Ser Gly Arg Val
        115                 120                 125
Gln Asp Pro Cys Arg Asp Glu Leu Leu Lys Gln Lys Arg Ala Lys His
    130                 135                 140
Leu Gln Gln Glu Leu Lys Thr Thr Pro Lys Thr Glu Phe Leu Pro Thr
145                 150                 155                 160
Ile Ala Lys Arg Thr Arg Thr Trp Glu Ser Glu Arg Ala Tyr Met Ser
                165                 170                 175
Lys Tyr Glu Gln Leu Gly Met Leu Val Lys Ala Lys Tyr Arg Lys Met
            180                 185                 190
Gln His Asp His Leu Glu Lys Gln Arg Glu Ala Tyr Glu Leu Cys Lys
        195                 200                 205
Gln Ser Pro Met Pro Thr Leu Arg Phe Leu Glu Met Lys Asn Glu Thr
    210                 215                 220
Ala Ser Leu Arg Phe Phe Lys Asn Lys Ile Asn Lys Leu Lys Ala Ser
225                 230                 235                 240
Tyr Pro Glu Gly Phe Glu Gly Trp Gly Thr Leu Leu Glu Asp Tyr Arg
                245                 250                 255
Pro Tyr Leu Met Ala Arg Ala Arg Ser Glu His Ala Leu Asn Met Ala
            260                 265                 270
Ile Tyr Glu Gln His Pro Gln Glu Glu Leu Arg Ala Ala Phe Glu Ala
        275                 280                 285
Leu Glu Glu Lys Glu Ala Pro Phe Arg Glu Gln Leu Ala Phe Val Arg
    290                 295                 300
Ser Leu Leu Glu Glu Arg Glu Ala Leu Asn Asn Ser Ile Thr Phe Ile
305                 310                 315                 320
Met Asp Lys Arg Asn Trp Ile Glu Thr Glu Ser Glu Gln Val Gln Met
                325                 330                 335
Val Leu Asn Pro Leu Leu Ser Ser Phe His Trp Glu Asp Asp Ala Gly
            340                 345                 350
Gly Ser Arg Glu Met Asn Lys Tyr Val His Trp Trp Gln Leu Thr Arg
        355                 360                 365
Ile Asn Arg Lys Asp Leu Leu Ala Ser Leu Ile Phe Gly Ile Arg Ile
    370                 375                 380
Ala Ile Val Val Gly Gly Leu Gly Val Ser Ile Ala Leu Phe Ile Gly
385                 390                 395                 400
Ile Ile Val Gly Leu Leu Ser Gly Tyr Phe Gly Gly Lys Val Asp Met
                405                 410                 415
Leu Leu Ser Arg Val Thr Glu Ile Trp Glu Thr Met Pro Met Leu Phe
            420                 425                 430
Ile Leu Met Leu Val Val Ala Ile Thr Gln Lys Lys Ser Leu Ile Leu
        435                 440                 445
Asp Ser Val Leu Leu Gly Cys Phe Gly Trp Val Ser Ile Ser Arg Tyr
    450                 455                 460
Val Arg Ile Glu Thr Leu Lys Gln Arg Asn Leu Gly Tyr Val Leu Ala
```

```
465                 470                 475                 480
Ala Thr Asn Leu Cys Tyr Ser His Tyr His Ile Met Val His Gln Ile
                485                 490                 495
Leu Pro Asn Val Ile Val Pro Val Ile Ser Leu Leu Pro Phe Ser Met
            500                 505                 510
Met Ala Met Ile Ser Cys Glu Ala Gly Leu Thr Phe Leu Gly Leu Gly
        515                 520                 525
Glu Glu Ser Ser Ala Ser Trp Gly Asn Leu Leu Arg Glu Gly Val Thr
    530                 535                 540
Ala Phe Pro Ser Glu Ser Ala Ile Leu Trp Pro Pro Ala Ile Met Leu
545                 550                 555                 560
Thr Leu Leu Leu Met Ala Ile Ala Val Ile Gly Asp Gly Ile Arg Asp
                565                 570                 575
Ala Leu Asp Pro Lys Met Gln Asp
            580
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<210>995
<211>170
<212>PRT
<213>Chlamydia trachomatis
<400>995

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Met Ala Glu Lys Phe Phe Val Val Ser Pro Thr Ser Lys Asn Cys Leu
  1               5                  10                  15
Ala Gln Ala Cys Ser Gln Gly Leu Pro Ile Asn Arg Thr Pro Pro Ile
            20                  25                  30
Gln Ile Ile Val His Phe Arg Gly Asp Ser Ile Phe His Ser Arg Leu
        35                  40                  45
Ser Pro Ala Pro Val Phe Thr Cys Leu Phe Leu Gly Pro Gly Ala His
    50                  55                  60
Lys Ala Met Glu Gly Leu Val Arg Trp Cys Glu Ala Tyr Ala Asn Lys
65                  70                  75                  80
Met Pro Pro Lys Leu Ser Phe Leu Asp Leu Ser Ser Phe Lys Glu Lys
                85                  90                  95
Arg Leu Ala Ile Leu Gln Glu Ile Arg Gln Ile Pro Phe Gly Thr Arg
            100                 105                 110
His Thr Cys Glu Glu Ile Ala Glu Arg Thr Lys Thr His Thr Glu Glu
        115                 120                 125
Val Leu Ile Ala Cys Gln Glu Asn Pro Leu Pro Leu Leu Ile Pro Cys
    130                 135                 140
His Arg Val Leu Ser Ile His Asp Tyr Pro Gly Gly Glu Lys Leu Tyr
145                 150                 155                 160
Lys Ala Leu Thr Glu Phe Glu Glu Leu Ser
                165                 170
```

<210>996
<211>363
<212>PRT
<213>Chlamydia trachomatis
<400>996

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Glu Ile Ser Gln His Arg Thr Arg Gln Leu Met Lys Arg Leu Phe Phe
  1               5                  10                  15
Ile Cys Ala Leu Ala Leu Ser Pro Leu Ala Tyr Gly Ala Val Gln Lys
            20                  25                  30
Asp Pro Met Leu Met Lys Glu Thr Phe Arg Asn Asn Tyr Gly Ile Ile
        35                  40                  45
Val Phe Lys Gln Glu Trp Asn Lys Arg Gly Cys Asp Gly Ser Ile Thr
    50                  55                  60
Arg Val Phe Lys Asp Gly Thr Thr Thr Leu Glu Val Tyr Ala Gln Gly
65                  70                  75                  80
Ala Leu His Gly Glu Val Thr Arg Thr Phe Pro His Ser Thr Thr Leu
                85                  90                  95
Ala Val Ile Glu Thr Tyr Asp Gln Gly Arg Leu Leu Ser Lys Lys Thr
            100                 105                 110
```

Phe Phe Pro Asn Ala Leu Pro Ala Lys Glu Ala Val Tyr His Glu Asp
115 120 125
Gly Ser Phe Ser Leu Thr Arg Trp Pro Asp Asn Asn Asn Ser Asp Thr
130 135 140
Ile Thr Asp Pro Cys Phe Val Glu Lys Thr Tyr Gly Gly Arg Val Leu
145 150 155 160
Glu Gly His Tyr Thr Ser Phe Asn Gly Lys Tyr Ser Ser Lys Ile Leu
165 170 175
Asn Gly Glu Gly Val Arg Ser Thr Phe Ser Ser Asp Ser Ile Leu Leu
180 185 190
Thr Glu Glu Ser Phe Asn Asp Gly Val Met Val Lys Lys Thr Thr Phe
195 200 205
Tyr Ser Thr Arg Glu Pro Glu Thr Val Thr His Tyr Val Asn Gly Tyr
210 215 220
Leu Thr Glu Phe Gly Leu Pro Ile Phe Leu Val Gly Phe Gln Ile Arg
225 230 235 240
Leu Lys Asn Gly Asp Met Asp Ile Lys Thr Ala Leu Gln Ser Tyr Leu
245 250 255
Lys Met Val Val Arg Leu Leu Lys Ser His Leu Tyr Ala Glu Gln Lys
260 265 270
Met Glu Ser Asn Ser Asp Thr Met Asn Lys Arg Ile Ser Leu Lys Arg
275 280 285
Phe Leu Gly Ser Thr Thr Ser Cys Met Glu Ser Ala Lys Ser Met Arg
290 295 300
Arg Gly Tyr Ala Asn Pro Asn Gly Ile Thr Lys Ala Asn Leu Ser Arg
305 310 315 320
Lys Ser Ser Leu Asn Asp Ser Val Pro Pro Asp Asn Ser Thr Leu Gly
325 330 335
Ala Ser Trp Leu Lys Ser Ser Leu Leu Ser Leu Gln Arg Pro Arg Thr
340 345 350
Val Trp Pro Arg Leu Ala Leu Lys Gly Phe Leu
355 360

<210>997
<211>132
<212>PRT
<213>Chlamydia trachomatis
<400>997
Trp Arg Asn Gly Gln Lys Asn Asp Ile Leu Leu Asp Ser Arg Thr Arg
1 5 10 15
Asn Arg His Ser Leu Cys Gln Trp Val Pro His Gly Val Arg Phe Thr
20 25 30
Tyr Leu Pro Gly Gly Ile Pro Asn Thr Ile Glu Glu Trp Arg Tyr Gly
35 40 45
His Gln Asp Gly Leu Thr Ile Leu Phe Lys Asn Gly Cys Lys Ile Ala
50 55 60
Glu Val Pro Phe Val Arg Gly Ala Lys Asn Gly Ile Glu Leu Arg Tyr
65 70 75 80
Asn Glu Gln Glu Asn Ile Ala Glu Glu Ile Ser Trp Gln His Asn Ile
85 90 95
Leu His Gly Val Arg Lys Ile His Ala Ala Gly Val Cys Lys Ser Glu
100 105 110
Trp Tyr Tyr Lys Gly Lys Pro Val Ser Gln Ile Lys Phe Glu Arg Leu
115 120 125
Ser Ala Ala Arg
130

<210>998
<211>790
<212>PRT
<213>Chlamydia trachomatis
<400>998
Met Leu Val Pro Leu Ser Leu Leu Gln Lys Phe Phe Ser Ser Pro Leu

```
  1               5                  10                  15
Ser Ile Glu Glu Ile Leu Gln Ala Cys Asp Arg Ile Gly Ile Glu Ala
            20                  25                  30
Glu Cys Ser Asn Val Phe Pro Asp Ser Leu Asn Thr Val Val Thr Gly
        35                  40                  45
Lys Ile Leu Ser Ala Ser Pro His Pro Asp Ala Glu Arg Leu Thr Val
    50                  55                  60
Ala Ile Val Phe Asp Gly Lys Gly Lys Arg Gln Ile Ile Cys Gly Ala
65                  70                  75                  80
Pro Asn Cys Arg Ala Gly Ile Ile Val Pro Ile Ala Leu Pro Gly Ala
                85                  90                  95
Lys Leu Arg Asn Ala Ser Gly Glu Ile Thr Thr Ile Lys Lys Ala Lys
            100                 105                 110
Ile Arg Gly Leu Glu Ser Gln Gly Met Cys Cys Gly Ala Asp Glu Leu
        115                 120                 125
Gly Phe Pro His Leu Gln Lys Ala Gln Arg Gly Ile Phe Glu Phe Pro
    130                 135                 140
Ala Asp Thr Pro Leu Gly Glu Ser Ala Cys Met Leu Leu Ala Gly Ala
145                 150                 155                 160
Ser Leu Glu Cys Ser Leu Thr Pro Asn Leu Gly His Cys Ala Ser Leu
                165                 170                 175
Leu Gly Leu Ala Arg Glu Ile Ser Phe Leu Ser Pro Val Ser Leu Asn
            180                 185                 190
Ile Pro Glu Glu Phe Ser Phe Ala Ser Leu Pro Gln Glu Thr Ser Ile
        195                 200                 205
Cys Asp Met His Asp Ala Gly Ala Cys Pro Val Phe Tyr Ser Val Lys
    210                 215                 220
Ile Ser Gly Leu Ser Cys Arg Arg Ser Pro Glu Tyr Leu Gln Ala Ala
225                 230                 235                 240
Leu Thr Ala Leu Gly Gln Lys Pro Leu Asn Ala Ile Val Asp Ile Thr
                245                 250                 255
Asn Tyr Val Met Leu Ser Leu Gly Gln Pro Leu His Ala Tyr Asp Ser
            260                 265                 270
Gln Ala Val Glu Gln Lys Ser Leu His Ala Ala Thr Leu Gln Ser Ala
        275                 280                 285
Gln Pro Leu Thr Leu Leu Asn Gln Glu Thr Tyr Thr Leu Pro Ala Gly
    290                 295                 300
Ser Leu Val Val Ala Asp Gln His Asn Ile Leu Gly Leu Ala Gly Val
305                 310                 315                 320
Met Gly Ser Ala Ala Ser Ser Cys Ser Glu Asn Thr Thr Glu Ile Ile
                325                 330                 335
Leu Glu Ala Ala Tyr Phe Gln Pro Gln Ala Val Arg Lys Tyr Gln Arg
            340                 345                 350
Thr Ile Gln Leu His Thr Glu Ala Ala Tyr Arg Phe Thr Arg Gly Val
        355                 360                 365
Asp Pro Gln Gly Val Leu Pro Ala Leu His Ala Ala Ile His Met Ile
    370                 375                 380
Gln Ser Leu Phe Pro Asp Ala Gln Ile Ser Pro Ile Gln Lys Ile Gly
385                 390                 395                 400
Asp Asp Ser Phe Phe Pro Leu Ser Leu Ser Val Arg Pro Lys Thr Ile
                405                 410                 415
Lys Arg Leu Leu Asp Ile Glu Leu Ser Thr Ala Glu Ile Val Ala Lys
            420                 425                 430
Leu Phe Ser Leu Gly Phe Gln Thr Ala Val Glu Glu Gln Ala Val Arg
        435                 440                 445
Val Glu Val Pro Ser Tyr Arg His Asp Ile Gln Glu Glu Thr Asp Leu
    450                 455                 460
Val Glu Glu Ile Cys Arg Thr Thr Pro Phe Val Gln Lys Thr Gln Lys
465                 470                 475                 480
Ile Leu Pro Thr Tyr Thr Pro Ile Tyr Ser Leu Lys Arg Glu Leu Thr
                485                 490                 495
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Ala Phe Leu Ala Asn Gly Gly Leu Gln Gln Phe Phe Thr Cys Ser Leu
500 505 510
Leu Asp Thr Glu Val Ser Ser Leu Ser Leu Gln Glu Ser Ser Leu Ile
515 520 525
Pro Val Gln Asn Ser Ser Trp Lys Leu Arg Asp Ser Leu Leu Pro Gly
530 535 540
Met Leu Lys Ser Ala Ala Thr Asn Leu His Arg Gln Ala Pro Tyr Val
545 550 555 560
Tyr Ala Phe Glu Ile Gly Asn Val Tyr Ser Lys Glu Gln Asn Arg Tyr
565 570 575
Gln Glu Glu Glu Arg Val Ala Ile Leu Leu Ser Arg Gln Val Met Asp
580 585 590
Asp Ser Trp Gln Gly Lys Thr Pro Leu Ser Phe Tyr Thr Ile Lys Gly
595 600 605
Trp Val Glu Lys Leu Leu Cys Gln Ser Gly Ala Ser Ile Glu Asp Phe
610 615 620
Ser Leu Gln Pro Ser Gln His Pro Asn Phe His Pro Tyr Gln Gln Ala
625 630 635 640
Ala Leu Tyr Gln Lys Lys His Leu Leu Gly Ile Phe Gly Thr Leu His
645 650 655
Pro Gln Leu Cys Arg Lys Ala Gln Ile Lys His Asp Val Val Phe Ala
660 665 670
Glu Leu Ser Leu Asn Val Leu Leu Ser Leu Lys Lys Lys Ser Gly Pro
675 680 685
His Tyr Val Pro Tyr Pro Ile Tyr Pro Ala Ser Ser Arg Asp Ile Thr
690 695 700
Ile Thr Ile Asp Arg Asp Leu Pro Ala Asp Leu Val Arg Arg Glu Leu
705 710 715 720
Leu Ser Phe Glu Ser Lys Trp Leu Glu Ser Val His Ile Val Ser Val
725 730 735
Tyr Gln Gly Arg Asp Ser Ala Ser Gln Ser Lys Asn Val Ser Leu Arg
740 745 750
Met Val Phe Arg Asp His Glu Arg Thr Leu Ser Gly Gln Glu Ile Glu
755 760 765
Glu Glu Tyr Glu Arg Leu Thr Ala Leu Leu Asp Lys Lys Leu Ala Asn
770 775 780
Ile Gly Gln Gly Asn Ser
785 790

<210>999
<211>256
<212>PRT
<213>Chlamydia trachomatis
<400>999

Ile Leu Arg Ser Gly Val Tyr Ser Ser Lys Tyr Phe Glu Gly Glu Gly
1 5 10 15
Cys Arg Ser Phe Met Gly Ile Glu Gly Arg Gly Ser Gly Ala Met Gln
20 25 30
Ser Lys Lys Thr Ile Lys Trp Leu Lys Gln Ala Leu Val Leu Ser Ser
35 40 45
Ile Val Asn Ile Leu Leu Leu Leu Leu Ile Tyr Ser Thr Val Phe Arg
50 55 60
Lys Asp Ile Tyr Lys Leu Arg Val Phe Pro Gly Asn Leu Ile Ala Lys
65 70 75 80
Ser Ser Arg Ile Gly Lys Ile Pro Glu Asp Ile Leu Glu Arg Leu Glu
85 90 95
Asn Ala Ser Phe Ala Asp Leu Leu Ala Leu Leu Xaa Glu Glu Arg Met
100 105 110
Val Phe Gly His Pro Leu Lys Ser Trp Ala Gln Gly Val Ser Ile Gln
115 120 125
Lys Tyr Phe Val Asp Ile Ala Pro Met Leu Thr His Xaa Leu Thr Phe
130 135 140

Ile Lys Leu Lys Ser Pro Glu Arg Thr Trp Leu Leu Pro Asp Ile Asn
145 150 155 160
Asp Gln Glu Phe Thr Arg Ile Cys Gln Tyr Leu Leu Thr Xaa Arg Phe
165 170 175
Pro Phe Ser Ser Arg Gly Phe Phe Arg Ile Met Val Arg Asp Cys Glu
180 185 190
Ala Gly Val Val Asp Glu Asp Val Leu Tyr Arg Phe Cys His Leu Pro
195 200 205
Glu Phe Leu Tyr Val Arg Ser Leu Leu Phe Gly Ala Glu Ile Glu Ala
210 215 220
Ala Ser Val Ala Ser Leu Ala Arg Met Ile Ile Gln Gly Gly Glu Asp
225 230 235 240
Leu Phe Phe Ser Leu Cys Cys Leu Glu Asn Arg Gln Thr Ala Asp Phe
245 250 255

<210>1000
<211>277
<212>PRT
<213>Chlamydia trachomatis
<400>1000
Asp Thr Leu Pro Phe Asn Asp Ile Asp Val Ile Ser Thr Met Arg Cys
1 5 10 15
Ser Ala Tyr Cys Thr Ala Ser Ser Tyr His Leu His Val Leu Phe His
20 25 30
Leu Leu Lys Val Asn Tyr Pro Ser Val Leu Ser Arg Glu Tyr Val Leu
35 40 45
Ile Ser Ser Glu Glu Leu Asp Glu Ser Asp Lys Ala Ala Val Phe Phe
50 55 60
Pro Phe Gly Val Cys Val Phe Trp Gly Trp Glu Glu Thr Glu Glu Leu
65 70 75 80
Gln Val Ile Arg Ala Ile Thr Pro Ser Ala Val Asn Pro Leu Pro Asn
85 90 95
Pro Glu Ile Asp Ser Tyr Asp Phe His Tyr Gly Glu Lys Leu Gln Ile
100 105 110
Arg Arg Asp Arg Leu Val Leu Thr Asn Ser Asn Leu Asn Thr Lys Leu
115 120 125
Ala Ile Ser Phe Gly Leu Ala Gln Ser Ile Lys Leu Thr Val Phe Glu
130 135 140
Glu Thr Ile Tyr Lys Thr Val Glu Asn Ser Lys Ser Leu Pro Gln Glu
145 150 155 160
Leu Ala Ser Lys Gly Lys Ile Ser Leu Ser Arg Lys Thr Ile Ala Lys
165 170 175
Lys Ile Gly Glu Leu Phe Leu Asp Lys Ala Ser Val Asn Leu His Ser
180 185 190
Asp Ile Leu Asp Glu Pro Asp Phe Phe Trp Glu His Pro Glu Thr Gln
195 200 205
Pro Phe Tyr Ile Asn Val Leu Thr Cys Leu Asp Val Asn Ala Arg Val
210 215 220
Asn Val Leu Asn His Arg Leu Ala Ile Leu Gly Asp Val Leu Glu Ile
225 230 235 240
Leu Asn Asp Gln Leu Asn His Gln His Ser Ser Ala Leu Glu Trp Thr
245 250 255
Val Ile Trp Leu Ile Ala Leu Glu Val Leu Val Thr Leu Leu Lys Asp
260 265 270
Val Phe Asn Ile Ile
275

<210>1001
<211>206
<212>PRT
<213>Chlamydia trachomatis
<400>1001
Ser Phe Val Ser Phe Val Met Glu Lys Arg Gly Val Ile Val His Ile

```
  1               5                  10                  15
Leu Val Cys Leu Leu Thr Ile Phe Gly Thr Leu Ser Leu Pro Ala Phe
            20                  25                  30
Gly Ala His Phe Leu Ala Glu Glu Glu Gln Phe Tyr Met Asp Arg Phe
        35                  40                  45
Val Phe Ser Gly Gln Tyr Pro Asp Met Glu Thr Met Glu Ile His Ala
    50                  55                  60
Glu Arg Lys Lys Arg Val Gln Phe Asp Val Thr Gly Ser Phe Pro Lys
65                  70                  75                  80
Leu Glu Ser Val Val Tyr Lys Gly Ser Phe Gly Leu Leu Arg Ser Lys
                85                  90                  95
Ile Lys Gly Glu Cys Pro Glu Leu Ser Ser Val Asn Leu Ser Cys Thr
            100                 105                 110
Ser Cys Arg Met Asp Leu Asp Phe Arg Gly Glu Trp Lys Lys Asn Ala
        115                 120                 125
Ser Ile Tyr Ile Arg Asn Glu Gln Glu Pro Ile Thr Ile Met Leu Pro
    130                 135                 140
Lys Asp Ile Gly Val Val Val Tyr Thr Gln Val Asp Met Asn Ser Lys
145                 150                 155                 160
Val Val Ala Glu Gly Ser Leu Ile Lys Arg Gly Arg Gly Phe Trp Lys
                165                 170                 175
Lys Thr Phe Arg Asn Ser Leu Val Gly Glu Ser Pro Val Thr Leu Thr
            180                 185                 190
Phe His Val Glu Thr Arg Asn Gly Gly Val Ile Phe Leu Arg
        195                 200                 205
<210>1002
<211>280
<212>PRT
<213>Chlamydia trachomatis
<400>1002
Arg Lys Leu Ser Ala His Arg Phe Phe Ile Pro Lys Asp Lys Asn Ile
  1               5                  10                  15
Arg Phe Leu Pro Arg Asp Ser Phe Ile Phe Ser Thr Asp Glu Leu Leu
            20                  25                  30
Tyr Pro Tyr Ile Phe Met Gln Ile Thr Leu Pro Gly Val Val Leu Thr
        35                  40                  45
Asn Ser Pro Ala Glu Lys Gln His Val Ile Val Lys Ile Phe Ser Pro
    50                  55                  60
Ala Gly Leu Leu Ser Ala Phe Ala Lys Asn Gly Ala Ser Leu Ser Cys
65                  70                  75                  80
Asp Phe Arg Glu Ser Leu Phe Pro Ile Ser Phe Ser Leu Phe Thr Ile
                85                  90                  95
Gln Gln Ser Pro Pro Lys Met Arg Lys Val Ile Gln Gly Glu Leu Gln
            100                 105                 110
Asn Pro Phe Thr Thr Ile Lys Ser Ser Tyr Pro Leu Leu Gln Ser Ala
        115                 120                 125
Gly Lys Met Ile Gln Ala Ile Leu Lys Thr Gln Trp His Glu Lys Pro
    130                 135                 140
Ser Pro His Leu Phe Ser Leu Phe Phe Asn Phe Leu Gln Arg Ile Pro
145                 150                 155                 160
Glu Thr Gln Tyr Pro Asn Phe Phe Ser Ser Met Phe Leu Leu Lys Leu
                165                 170                 175
Leu Gln His Glu Gly Ser Leu Asp Leu Ser Arg Ser Cys Thr Leu Cys
            180                 185                 190
Lys Thr Ser Leu Glu Ser Ser Thr Ile Tyr Arg Tyr Glu Gly Ala Leu
        195                 200                 205
Phe Cys Glu Lys His Ala His Glu Glu Thr Ile Ser Phe Ser Gln Glu
    210                 215                 220
Glu Asp His Ile Leu Arg Val Ile Val Gln Ala Lys Lys Phe Gln Glu
225                 230                 235                 240
Leu Val Cys Leu Ala Glu Phe Pro Ile Asp Ile Asp Thr Lys Ile Asp
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```
                245                 250                 255
Ala Leu Phe Ser Ser Phe Leu Ser Glu Thr Ser Glu Pro Ser Ser Leu
            260                 265                 270
Tyr Tyr Lys Gly Lys Thr Leu Leu
        275                 280
<210>1003
<211>386
<212>PRT
<213>Chlamydia trachomatis
<400>1003
Met Ser Ile Glu His Ile Leu Ile Ile Asp Asp Asp Pro His Ile Leu
  1               5                  10                  15
Ala Leu Leu Ser Glu Ile Leu Gly Ala Arg Asn Phe Ser Val Ser Ser
            20                  25                  30
Ala Pro Gly Val Lys Gln Ala Ile Lys Gln Ile Ser Asn Cys Pro Phe
        35                  40                  45
Asp Leu Ile Ile Ser Asp Met Asn Met Pro Asp Gly Ser Gly Leu Asp
    50                  55                  60
Ile Ile Gln Tyr Thr Lys Gln His Arg Pro Gln Thr Pro Ile Leu Val
65                  70                  75                  80
Ile Thr Ala Phe Gly Thr Ile Gln Asn Ala Val Glu Ala Met Arg Phe
                85                  90                  95
Gly Ala Phe Asn Tyr Leu Thr Lys Pro Phe Ser Pro Asp Ala Leu Phe
            100                 105                 110
Thr Leu Ile Ala Lys Ala Glu Glu Leu Gln Ala Leu Gln Gln Asp Asn
        115                 120                 125
Leu Phe Leu Gln Ser Gln Gly Ser Ser Ile Ser His Pro Leu Ile Ala
    130                 135                 140
Glu Ser Pro Ser Met Lys Gln Leu Leu Asp Lys Ala Arg Arg Ala Ala
145                 150                 155                 160
Asn Ser Ser Ala Asn Ile Phe Val His Gly Glu Ser Gly Cys Gly Lys
                165                 170                 175
Glu Asn Leu Ser Phe Phe Ile His Lys His Ser Pro Arg Ser Thr Lys
            180                 185                 190
Pro Tyr Ile Lys Val Asn Cys Ala Ala Ile Pro Asp Thr Leu Leu Glu
        195                 200                 205
Ser Glu Phe Phe Gly His Glu Lys Gly Ala Phe Thr Gly Ala Thr Thr
    210                 215                 220
Lys Lys Val Gly Arg Phe Glu Leu Ala His Gln Gly Thr Leu Leu Leu
225                 230                 235                 240
Asp Glu Ile Thr Glu Ile Pro Ile His Leu Gln Ala Lys Leu Leu Arg
                245                 250                 255
Ala Ile Gln Glu Gln Glu Phe Xaa His Ile Gly Gly Ile Lys Thr Leu
            260                 265                 270
Pro Val Asn Ile Arg Phe Leu Ala Thr Ser Asn Arg Asp Leu Glu Glu
        275                 280                 285
Ala Ile Glu Thr Lys Val Leu Arg Gln Asp Leu Tyr Tyr Arg Leu Ser
    290                 295                 300
Val Ile Ser Leu His Ile Pro Pro Leu Arg Asp Arg Lys Glu Asp Ile
305                 310                 315                 320
Leu Pro Leu Ala His Tyr Tyr Leu Glu Lys Phe Cys Lys Met Asn Asn
                325                 330                 335
Lys Pro Pro Lys Thr Leu Ser Leu Glu Ala Gln Arg Asn Leu Leu Asp
            340                 345                 350
Tyr Ser Trp Pro Gly Asn Val Arg Glu Leu Ser Asn Val Leu Glu Arg
        355                 360                 365
Thr Val Ile Leu Glu Asn Asp Pro Ala Ile Thr Pro Ser Met Leu Ala
    370                 375                 380
Leu Leu
385
<210>1004
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<211>261
<212>PRT
<213>Chlamydia trachomatis
<400>1004

```
Glu Lys Glu Asn Trp Glu Leu Met Pro Lys Ile Asp Thr Cys Asp Ser
 1               5                  10                  15
Cys Val Ser Asn Thr Glu Leu Leu Ala Ile Arg Thr Arg Val Thr Gln
            20                  25                  30
Ser Tyr Asn Glu Ala Gln Thr Ile Leu Ser Ser Ile Pro Asp Gly Ile
        35                  40                  45
Phe Leu Leu Ser Glu Ser Gly Glu Ile Leu Ile Cys Asn Pro Gln Ala
    50                  55                  60
Arg Ala Ile Leu Gly Ile Pro Lys Asp Ile Gln Leu Val Thr Arg Arg
65                  70                  75                  80
Phe His Asp Phe Phe Pro Asp Thr Phe Phe Gly Phe Ser Val Gln Glu
                85                  90                  95
Ala Leu Glu Lys Glu Val Pro Pro Lys Thr Ile Arg Leu Thr Leu Ser
            100                 105                 110
Gln Glu Leu Ser Gln Lys Glu Val Glu Val Phe Val Arg Lys Asn Ile
        115                 120                 125
Ser His Gly Phe Leu Phe Leu Leu Ile Arg Asp Arg Ser Asp Tyr Arg
    130                 135                 140
Gln Leu Glu Gln Ala Ile Glu Lys Tyr Arg Ser Ile Ser Glu Leu Gly
145                 150                 155                 160
Lys Ile Ala Ala Thr Leu Ala His Glu Ile Arg Asn Pro Leu Thr Ser
                165                 170                 175
Ile Ser Gly Phe Ala Thr Leu Leu Lys Glu Glu Leu Ser Ser Glu Arg
            180                 185                 190
His Gln Arg Met Leu Asn Val Ile Ile Glu Gly Thr Arg Ser Leu Asn
        195                 200                 205
Ser Leu Val Ser Ser Met Leu Glu Tyr Thr Lys Ile Gln Pro Leu Asn
    210                 215                 220
Leu Arg Ser Ile Asp Leu Gln Asp Phe Phe Ser Ser Leu Ile Pro Glu
225                 230                 235                 240
Leu Ser Leu Thr Phe Leu Leu Val His Leu Glu Glu Pro Ser Tyr Leu
                245                 250                 255
Leu Tyr Ser Ala Leu
            260
```

<210>1005
<211>222
<212>PRT
<213>Chlamydia trachomatis
<400>1005

```
Ala Phe Phe His Ser Ala Gly Asn Phe Met Asn Leu Ile Leu Leu Leu
 1               5                  10                  15
Thr Leu Cys Leu Ser Ser Leu Leu Ser Gly Cys Ser Thr Asp Asn Arg
            20                  25                  30
Gln Thr Ser Tyr Ile Glu Ala Ala Arg Ile Thr Thr Gln Ser Ser Gly
        35                  40                  45
Ser Leu Ile Leu Tyr Pro Val Ile Glu Pro Arg Ser Ala Pro Thr Tyr
    50                  55                  60
His Trp Pro Thr Pro Lys Ser Pro Val Ile Thr Asn Tyr Ser Phe His
65                  70                  75                  80
Cys His Gly Thr Ser Gly Ser Leu Ser Thr Glu Glu Thr Leu Val Phe
                85                  90                  95
Asp Cys Asn Gly Ile Lys His Leu Ala Lys Pro Phe Ser Ile His Pro
            100                 105                 110
Leu Leu Val Thr Ile Ala Gln Tyr Ile His His His Phe Pro Ile Thr
        115                 120                 125
Ile Glu Glu Gly Tyr Cys Cys Pro Met His Tyr Lys Phe Leu Leu Thr
    130                 135                 140
```

Ser Asp Thr Ser Ile Ser Glu Gln His Cys Lys Gly Leu Ala Ala Ile
145 150 155 160
Val Ser Thr Gln Gln Pro Val Ser Pro Gln Met Leu Ala Pro Ile Leu
165 170 175
Ser Lys Leu Tyr Arg Gly Leu Pro Leu Pro Ser Lys Thr Phe Thr Leu
180 185 190
Ser His Asn Thr Ile Gln Asn Glu Asp Phe Ile Ile Thr Ser Thr Phe
195 200 205
Lys Lys Gly Lys Pro Val Leu Val Ile Glu Val His His Glu
210 215 220

<210>1006
<211>267
<212>PRT
<213>Chlamydia trachomatis
<400>1006
Met Thr Lys Lys Ile Val Leu Gln Ile Ala Tyr Gln Gly Thr Ser Tyr
1 5 10 15
Ser Gly Trp Gln Tyr Gln Pro Asn Ala Leu Ser Ile Gln Glu Val Leu
20 25 30
Lys Thr Ile Leu Lys Lys Ile Ala Gly Phe Arg Ile Ser Val Ile Ser
35 40 45
Ser Gly Arg Thr Asp Ala Gly Val His Ala Gln Gly Gln Ile Ala His
50 55 60
Phe His Cys Pro Asp His Pro His Phe Thr Asp Pro Arg Gln Ile Gln
65 70 75 80
Lys Met Leu Asn Ala Leu Leu Pro His Asp Ile Val Ile Arg Asp Ala
85 90 95
Val Met Thr Asp Gly Asp Phe His Ser Arg Phe Ser Ala Ile Ala Lys
100 105 110
Glu Tyr Arg Tyr Thr Leu Ser Leu Leu Pro Lys Pro Leu Pro His His
115 120 125
Arg Leu Phe Cys Phe Ser Pro Arg Tyr Lys Leu Asn Ile Ala Arg Met
130 135 140
Gln Glu Ala Ala Gln Tyr Leu Val Gly Thr His Asp Phe Ala Ser Phe
145 150 155 160
Ala Asn Leu Gly Arg Glu Tyr Ser Ser Thr Ile Arg Thr Leu Tyr Thr
165 170 175
Leu Asp Leu Ser Glu Gln Glu His Leu Val Thr Val Ile Cys Arg Gly
180 185 190
Asn Gly Phe Leu Tyr Lys Met Val Arg Asn Ile Val Gly Ala Leu Leu
195 200 205
Asp Ile Gly Lys Gly Lys Tyr Pro Pro Glu His Leu Leu Asp Met Leu
210 215 220
Ala Thr Lys Asp Arg Arg Lys Gly Pro Pro Ser Ala Pro Pro Tyr Gly
225 230 235 240
Leu Ser Leu His His Val Cys Tyr Pro Pro Pro Tyr Gln Trp Phe Cys
245 250 255
Lys His Glu His Asn Asn Ser Ser Glu Gly Lys
260 265

<210>1007
<211>222
<212>PRT
<213>Chlamydia trachomatis
<400>1007
Gly Ala Ser Met Asn Leu Ser Cys Ser Leu Val Leu Leu Gly Gly Gly
1 5 10 15
Lys Gly Glu Arg Phe Asn Ser Leu Gln Pro Lys Gln Tyr Thr His Leu
20 25 30
Cys Gly Glu Pro Leu Ile Leu His Ala Leu His Ala Tyr Gln Arg Leu
35 40 45
Pro Phe Val Gln Glu Val Val Val Val Cys Glu Glu Gln Tyr Arg Glu

```
     50                  55                  60
Leu Phe Leu Pro Tyr Ser Val Lys Phe Ala Ser Pro Gly Thr Leu Arg
 65                  70                  75                  80
Gln Asp Ser Val Phe Ser Gly Leu Gln Gln Val Phe Thr Pro Trp Val
                 85                  90                  95
Cys Ile His Asp Gly Val Arg Pro Phe Val Tyr Ala Asp Glu Val Ile
            100                 105                 110
Glu Val Cys Ser Ala Ala Arg Lys Thr Gly Ala Ala Ala Leu Ala Ser
        115                 120                 125
Pro Ala Thr Tyr Thr Ile Lys Ser Cys Ala Pro Val Arg Thr Leu Asp
    130                 135                 140
Arg Asp Ala Leu Ala Val Ile His Thr Pro Gln Cys Leu Asp Thr Glu
145                 150                 155                 160
Val Leu Arg Glu Gly Leu Leu Leu Ala Arg Ala Met Asp Phe Ser Leu
                165                 170                 175
Ser Asp Asp Thr Glu Ala Ala Glu Leu Leu Gly Ile Glu Pro Thr Leu
            180                 185                 190
Val Phe Ser Asn Arg Val Gln Ile Lys Val Thr Tyr Pro Glu Asp Leu
        195                 200                 205
Leu Phe Ala Glu Thr Leu Leu Ser Lys Ser Ser Thr Tyr Lys
    210                 215                 220
<210>1008
<211>329
<212>PRT
<213>Chlamydia trachomatis
<400>1008
Leu Phe Val Phe Val Gly Ile Thr Val Ser Leu Thr Thr Ile Leu Ala
  1               5                  10                  15
Ala Pro Leu Leu Thr Trp Val Trp Ala Asn His Leu Glu Pro Asn Leu
            20                  25                  30
Leu Arg Val Thr Arg Leu Asn Trp Asn Leu Pro Lys Lys Phe Ala His
        35                  40                  45
Leu His Gly Leu Arg Ile Val Gln Ile Ser Asp Leu His Leu Asn His
    50                  55                  60
Ser Thr Pro Asp Ala Phe Leu Lys Lys Val Ser Arg Lys Ile Ser Ser
 65                  70                  75                  80
Leu Ser Pro Asp Ile Leu Val Phe Thr Gly Asp Phe Val Cys Arg Ala
                 85                  90                  95
Lys Val Glu Thr Pro Glu Arg Leu Lys His Phe Leu Cys Ser Leu His
            100                 105                 110
Ala Pro Leu Gly Cys Phe Ala Cys Leu Gly Asn His Asp Tyr Ala Thr
        115                 120                 125
Tyr Val Ser Arg Asp Ile His Gly Lys Ile Asn Thr Ile Ser Ala Met
    130                 135                 140
Asn Ser Arg Pro Leu Lys Arg Ala Phe Thr Ser Val Tyr Gln Ser Leu
145                 150                 155                 160
Phe Ala Ser Ser Arg Asn Glu Phe Ala Asp Thr Leu Asn Pro Gln Ile
                165                 170                 175
Pro Asn Pro His Leu Val Ser Ile Leu Arg Asn Thr Pro Phe Gln Leu
            180                 185                 190
Leu His Asn Gln Ser Ala Thr Leu Ser Asp Thr Ile Asn Ile Val Gly
        195                 200                 205
Leu Gly Asp Phe Phe Ala Lys Gln Phe Asp Pro Lys Lys Ala Phe Thr
    210                 215                 220
Asn Tyr Asn Pro Thr Leu Pro Gly Ile Ile Leu Ser His Asn Pro Asp
225                 230                 235                 240
Thr Ile His His Leu Gln Asp Tyr Pro Gly Asp Val Val Phe Ser Gly
                245                 250                 255
His Ser His Gly Pro Gln Ile Ser Leu Pro Trp Pro Lys Phe Ala Asn
            260                 265                 270
Thr Ile Thr Asn Lys Leu Ser Gly Leu Glu Asn Pro Glu Leu Ala Arg
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        275                 280                 285
Gly Leu Phe Ser Phe Pro Glu Glu Ser Arg Leu Leu Tyr Val Asn Arg
    290                 295                 300
Gly Leu Gly Gly Trp Lys Arg Ile Arg Phe Cys Ser Pro Pro Glu Ile
305                 310                 315                 320
Cys Leu Met Arg Cys Leu Tyr Glu Pro
                325
<210>1009
<211>89
<212>PRT
<213>Chlamydia trachomatis
<400>1009
Glu Ser Ser Met Ser Gln Asn Lys Asn Ser Ala Phe Met Gln Pro Val
  1               5                  10                  15
Asn Val Ser Ala Asp Leu Ala Ala Ile Val Gly Ala Gly Pro Met Pro
            20                  25                  30
Arg Thr Glu Ile Ile Lys Lys Met Trp Asp Tyr Ile Lys Glu Asn Ser
        35                  40                  45
Leu Gln Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu
    50                  55                  60
Ala Lys Val Phe Gly Thr Glu Lys Pro Ile Asp Met Phe Gln Met Thr
65                  70                  75                  80
Lys Met Val Ser Gln His Ile Ile Lys
                85
<210>1010
<211>104
<212>PRT
<213>Chlamydia trachomatis
<400>1010
Val Tyr Arg Gln Asn Lys Lys His Ser Gln Val Phe Ser Lys Lys Arg
  1               5                  10                  15
Gly Lys Ser Glu Leu Glu Asn Asp Leu Phe Leu Gly Leu Leu Arg Lys
            20                  25                  30
Lys Leu Ile Pro Lys Arg Arg Ser Cys Tyr His Glu Arg Val Leu Ala
        35                  40                  45
Val Thr Ala Thr Val Ile Val Glu Ile Thr Gly Lys Glu Asn Ser Ser
    50                  55                  60
Leu Lys Lys Lys Ser Leu Lys Leu Asp Ile Leu Arg Lys Val Ser Lys
65                  70                  75                  80
Ile Met His Glu Asn Phe Asp Lys Arg Leu Glu Val Leu Leu Glu Gly
                85                  90                  95
Leu Ala Leu Thr Arg Arg Ser Leu
            100
<210>1011
<211>250
<212>PRT
<213>Chlamydia trachomatis
<400>1011
Leu Gly Gly Leu Phe Asp Pro Glu Gly Lys Glu Asn Glu Leu Lys Glu
  1               5                  10                  15
Leu Glu Gln Gln Ala Val Gln Asp Gly Phe Trp Asp Asp Val Ala Arg
            20                  25                  30
Ala Gly Lys Ile Ser Glu Arg Ile Ala Arg Leu Lys Gln Gln Leu Ser
        35                  40                  45
Glu Phe Asn Glu Leu Lys Asn Lys Val Ser Thr Ile Gln Phe Phe Leu
    50                  55                  60
Glu Asp Glu Glu Ser Ser Lys Asp Leu Glu Met Gln Lys Glu Leu Glu
65                  70                  75                  80
Lys Glu Phe Val Phe Cys Glu Lys Lys Ile Thr Glu Trp Glu Thr Leu
                85                  90                  95
Arg Leu Leu Ser Gly Glu Leu Asp Arg Asn Ser Cys Phe Leu Ser Ile
```

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            100                 105                 110
Asn Ala Gly Ala Gly Gly Thr Glu Ser Cys Asp Trp Val Glu Met Cys
        115                 120                 125
Cys Ala Cys Ile Cys Asp Gly Leu Val Val Ile Ser Trp Arg Val Glu
    130                 135                 140
Val Ile Asp Arg Leu Asp Gly Glu Val Ala Gly Ile Lys His Ile Thr
145                 150                 155                 160
Leu Lys Leu Val Gly Glu Tyr Ala Tyr Gly Tyr Ala Lys Ala Glu Ser
                165                 170                 175
Gly Val His Arg Leu Val Arg Ile Ser Pro Phe Asp Ser Asn Ala Lys
            180                 185                 190
Arg His Thr Ser Phe Ala Ser Val Glu Val Phe Pro Glu Ile Asp Asp
        195                 200                 205
Lys Ile Glu Val Glu Ile His Pro Gly Asp Ile Arg Ile Asp Thr Tyr
    210                 215                 220
Arg Ser Ser Gly Ala Gly Gly Gln His Val Asn Val Thr Asp Ser Ala
225                 230                 235                 240
Val Arg Ile Thr Gln Xaa Leu Arg Glu Leu
                245                 250
```

<210>1012
<211>91
<212>PRT
<213>Chlamydia trachomatis
<400>1012

```
Ser Asn Ser Lys Pro Arg Ser Leu Tyr Glu Tyr Leu Arg Ala Arg Ile
  1                 5                  10                  15
Tyr Gln Lys Leu Leu Gln Glu Arg Leu Glu Lys Gln Asn Ile Asp Arg
            20                  25                  30
Lys Asn Lys Lys Glu Ile Ser Trp Gly Ser Gln Ile Arg Asn Tyr Val
        35                  40                  45
Phe Gln Pro Tyr Thr Leu Val Lys Asp Val Arg Thr Gly Tyr Glu Val
    50                  55                  60
Gly Asn Ile Gln Ala Met Met Asp Gly Glu Leu Leu Asp Ala Phe Ile
65                  70                  75                  80
Lys Ala Tyr Leu Val Asp Tyr Gly Glu Ile Thr
                85                  90
```

<210>1013
<211>172
<212>PRT
<213>Chlamydia trachomatis
<400>1013

```
Leu Trp Arg Asn Tyr Met Thr Thr Met Arg Asp Pro Leu Leu Glu Ile
  1                 5                  10                  15
Arg Tyr Thr Val Pro Glu Asp Ala His Tyr Met Arg Leu Trp Leu Asn
            20                  25                  30
Asp Pro Lys Ile Leu Arg Gly Phe Pro Leu Lys Thr Glu Ala Glu Ile
        35                  40                  45
Arg Asp Ser Val Asn Phe Trp Val Ser Phe Tyr Arg Cys Arg Ser Ser
    50                  55                  60
Leu Thr Ala Val Tyr Asn Gly Glu Val Ala Gly Val Ala Thr Leu Ile
65                  70                  75                  80
Leu Asn Pro Tyr Val Lys Val Ala His His Ser Leu Leu Ser Ile Ile
                85                  90                  95
Val Gly Glu Lys Phe Arg Asn Lys Gly Val Gly Thr Ala Leu Leu Asn
            100                 105                 110
Asn Leu Leu His Leu Gly Lys Thr Gln Leu Lys Leu Glu Leu Val Tyr
        115                 120                 125
Leu Glu Val Tyr Glu Gly Asn Pro Ala Ile His Leu Tyr Glu Arg Phe
    130                 135                 140
Gly Phe Val Glu Val Gly Arg Gln Lys Thr Phe Tyr Lys Asp Glu Leu
145                 150                 155                 160
```

Gly Tyr Leu Ala Lys Ile Thr Met Glu Arg Val Leu
165 170

<210>1014
<211>122
<212>PRT
<213>Chlamydia trachomatis
<400>1014
Met Ala Gly His Ser Lys Trp Ala Asn Thr Lys His Arg Lys Glu Arg
1 5 10 15
Ala Asp His Lys Lys Gly Lys Ile Phe Ser Arg Thr Ile Lys Glu Leu
20 25 30
Ile Ser Ala Val Lys Met Gly Gly Pro Asp Pro Lys Ser Asn Ala Arg
35 40 45
Leu Arg Met Ile Ile Gln Lys Ala Lys Asp Gln Asn Ile Pro Asn Glu
50 55 60
Asn Ile Glu Arg Asn Leu Lys Lys Ala Ser Ser Ala Asp Gln Lys Asn
65 70 75 80
Tyr Glu Glu Val Thr Tyr Glu Leu Tyr Gly Phe Gly Gly Val Gly Ile
85 90 95
Ile Val Glu Ala Met Thr Asp Asn Lys Asn Arg Thr Ala Ser Asp Met
100 105 110
Arg Val Pro Leu Thr Asn Glu Val Gly Leu
115 120

<210>1015
<211>133
<212>PRT
<213>Chlamydia trachomatis
<400>1015
Glu Pro His Ser Leu Gly Tyr Ala Arg Thr Val Asn Lys Arg Gly Gly
1 5 10 15
Ala Leu Val Glu Pro Gly Ser Val Leu Tyr Asn Phe Ser Arg Lys Gly
20 25 30
Ala Cys Tyr Val Pro Lys His Ser Ile Asp Glu Ala Ser Leu Leu Thr
35 40 45
His Val Ile Asp Cys Gly Gly Glu Asp Leu Asp Ser Asp Asp Glu Glu
50 55 60
Phe Phe Leu Val Leu Cys Glu Pro Thr Asp Leu Ala Ser Val Lys Glu
65 70 75 80
Ala Leu Leu Ala Lys Gly Val Thr Cys Ser Glu Glu Arg Leu Ile Tyr
85 90 95
Val Pro Leu Arg Leu Val Asp Cys Asp Glu Glu Thr Gly Lys Ser Asn
100 105 110
Leu Ala Leu Ile Glu Trp Leu Glu Asn Ile Asp Asp Val Asp Asp Val
115 120 125
Tyr His Asn Met Ala
130

<210>1016
<211>603
<212>PRT
<213>Chlamydia trachomatis
<400>1016
Val Thr Gln Lys Ile Arg Val Val Val Gln Gln Gln His Ser Ile Leu
1 5 10 15
Tyr Arg Gly Ser Ser Tyr Thr Thr Gly Pro Arg Asn Glu Gly Val Phe
20 25 30
Gly Pro Gly Pro Glu Gly Leu Pro Asp Met Ser Leu Pro Ser Tyr Asp
35 40 45
Pro Thr Asn Lys Thr Ser Leu Leu Thr Phe Leu Ser Asn Pro His Val
50 55 60
Lys Xaa Lys Met Leu Glu Asn Ser Gly His Phe Val Phe Ile Asp Thr
65 70 75 80

```
Asp Arg Ser Ser Phe Ile Leu Val Pro Asn Gly Asn Trp Asp Gln Val
                 85                  90                  95
Cys Ser Ile Lys Val Gln Asn Gly Lys Thr Lys Glu Asp Leu Asp Ile
            100                 105                 110
Lys Asp Leu Glu Asn Met Cys Ala Lys Phe Cys Thr Gly Phe Asn Lys
        115                 120                 125
Phe Ser Gly Asp Trp Asp Ser Arg Val Glu Pro Met Met Ser Ala Lys
    130                 135                 140
Ala Gly Val Ala Ser Gly Gly Asn Leu Pro Asn Thr Val Ile Ile Asn
145                 150                 155                 160
Asn Lys Phe Lys Thr Cys Val Ala Tyr Gly Pro Trp Asn Ser Arg Glu
                165                 170                 175
Ala Ser Ser Gly Tyr Thr Pro Ser Ala Trp Arg Arg Gly His Gln Val
            180                 185                 190
Asn Phe Gly Glu Ile Phe Glu Lys Ala Asn Asp Phe Asn Lys Ile Asn
        195                 200                 205
Trp Gly Thr Gln Ala Gly Pro Ser Ser Glu Asp Asp Gly Ile Ser Phe
    210                 215                 220
Ser Asn Glu Thr Pro Gly Ala Gly Pro Ala Ala Ala Pro Ser Pro Thr
225                 230                 235                 240
Pro Ser Ser Ile Pro Val Ile Asn Val Asn Val Asn Val Gly Gly Thr
                245                 250                 255
Asn Val Asn Ile Arg Asp Thr Asn Val Asn Thr Thr Asn Thr Thr Pro
            260                 265                 270
Thr Thr Gln Ser Thr Asp Ala Ser Thr Asp Thr Ser Asp Ile Asp Asn
        275                 280                 285
Ile Asn Thr Asn Asn Gln Thr Asp Asp Ile Asn Thr Thr Asp Lys Asp
    290                 295                 300
Ser Asp Gly Ala Gly Gly Val Asn Gly Asp Ile Ser Glu Thr Glu Ser
305                 310                 315                 320
Ser Ser Gly Asp Asp Ser Gly Ser Val Ser Ser Ser Glu Ser Asp Lys
                325                 330                 335
Asn Ala Ser Val Gly Asn Asp Gly Pro Ala Met Lys Asp Ile Leu Ser
            340                 345                 350
Ala Val Arg Lys His Leu Asp Val Val Tyr Pro Gly Asp Asn Gly Gly
        355                 360                 365
Ser Thr Glu Gly Pro Leu Gln Ala Asn Gln Thr Leu Gly Asp Ile Val
    370                 375                 380
Gln Asp Met Glu Thr Thr Gly Thr Ser Gln Glu Thr Val Val Ser Pro
385                 390                 395                 400
Trp Lys Gly Ser Thr Ser Ser Thr Gly Ser Ala Gly Gly Ser Gly Ser
                405                 410                 415
Val Gln Thr Leu Leu Pro Ser Pro Pro Pro Thr Pro Ser Thr Thr Thr
            420                 425                 430
Leu Arg Thr Gly Thr Gly Ala Thr Thr Thr Ser Leu Met Met Gly Gly
        435                 440                 445
Pro Ile Lys Ala Asp Ile Ile Thr Thr Gly Gly Gly Gly Arg Ile Pro
    450                 455                 460
Gly Gly Gly Thr Leu Glu Lys Leu Leu Pro Arg Ile Arg Ala His Leu
465                 470                 475                 480
Asp Ile Ser Phe Asp Gly Gln Gly Asp Leu Val Ser Thr Glu Glu Pro
                485                 490                 495
Gln Leu Gly Ser Ile Val Asn Lys Phe Arg Lys Glu Thr Gly Ser Gly
            500                 505                 510
Gly Ile Val Ala Ser Val Glu Ser Ala Pro Gly Lys Pro Gly Ser Ala
        515                 520                 525
Gln Val Leu Thr Gly Thr Gly Gly Asp Lys Gly Asn Leu Phe Gln Ala
    530                 535                 540
Ala Ala Ala Val Thr Gln Ala Leu Gly Asn Val Ala Gly Lys Val Asn
545                 550                 555                 560
Leu Ala Ile Gln Gly Gln Lys Leu Ser Ser Leu Val Asn Asp Asp Gly
```

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```
                565                 570                 575
Lys Gly Ser Val Gly Arg Asp Leu Phe Gln Ala Ala Thr Gln Thr Thr
            580                 585                 590
Gln Ala Leu Ser Ser Leu Ile Asp Thr Val Gly
        595                 600
<210>1017
<211>134
<212>PRT
<213>Chlamydia trachomatis
<400>1017
Gly Ser Ser Val Leu Thr Arg Ser Pro Cys Pro Ser Lys Asp Met Ser
  1               5                  10                  15
Lys Cys Ala Arg Ile Arg Gly Ser Ser Phe Ser Asn Val Pro Pro Pro
            20                  25                  30
Gly Ile Arg Pro Pro Pro Pro Val Val Ile Met Ser Ala Leu Ile Gly
        35                  40                  45
Pro Pro Ile Ile Lys Asp Val Val Val Ala Pro Val Pro Val Leu Asn
    50                  55                  60
Val Val Val Asp Gly Val Gly Gly Gly Glu Gly Ser Ser Val Cys Thr
65                  70                  75                  80
Leu Pro Leu Pro Pro Ala Asp Pro Val Glu Glu Val Leu Pro Phe His
                85                  90                  95
Gly Asp Thr Thr Val Ser Trp Asp Val Pro Val Val Ser Ile Ser Trp
            100                 105                 110
Thr Ile Ser Pro Arg Val Trp Leu Ala Trp Arg Gly Pro Ser Val Glu
        115                 120                 125
Pro Pro Leu Ser Pro Gly
    130
<210>1018
<211>323
<212>PRT
<213>Chlamydia trachomatis
<400>1018
Phe Val Val Met Thr Asn Ser Ile Ser Gly Asp Gln Pro Thr Val Thr
  1               5                  10                  15
Thr Phe Thr Ser Ser Thr Thr Ser Ala Ser Gly Ala Ser Gly Ser Leu
            20                  25                  30
Gly Ala Ser Ser Val Ser Thr Thr Ala Asn Ala Thr Val Thr Gln Thr
        35                  40                  45
Ala Asn Ala Thr Asn Ser Ala Ala Thr Ser Ser Ile Gln Thr Thr Gly
    50                  55                  60
Glu Thr Val Val Asn Tyr Thr Asn Ser Ala Ser Ala Pro Thr Val Thr
65                  70                  75                  80
Val Ser Thr Ser Ser Ser Ser Thr Gln Ala Thr Ala Thr Ser Asn Lys
                85                  90                  95
Thr Ser Gln Ala Val Ala Gly Lys Ile Thr Ser Pro Asp Thr Ser Glu
            100                 105                 110
Ser Ser Glu Thr Ser Ser Thr Ser Ser Ser Asp His Ile Pro Ser Asp
        115                 120                 125
Tyr Glu Pro Ile Ser Thr Thr Glu Asn Ile Tyr Glu Asn Ile Tyr Glu
    130                 135                 140
Ser Ile Asp Asp Ser Ser Thr Ser Gly Pro Glu Asn Thr Ser Gly Gly
145                 150                 155                 160
Ala Ala Ala Leu Asn Ser Leu Arg Gly Ser Ser Tyr Ser Asn Tyr Asp
                165                 170                 175
Asp Ala Ala Ala Asp Tyr Glu Pro Ile Ser Thr Thr Glu Asn Ile Tyr
            180                 185                 190
Glu Ser Ile Asp Asp Ser Ser Thr Ser Asp Pro Glu Asn Thr Ser Gly
        195                 200                 205
Gly Ala Ala Ala Leu Asn Ser Leu Arg Gly Ser Ser Tyr Ser Asn Tyr
    210                 215                 220
```

```
Asp Asp Ala Ala Ala Asp Tyr Glu Pro Ile Ser Thr Thr Glu Asn Ile
225                 230                 235                 240
Tyr Glu Asn Ile Tyr Glu Ser Ile Asp Asp Ser Ser Thr Ser Gly Pro
                245                 250                 255
Glu Asn Thr Ser Gly Gly Ala Ala Ala Leu Asn Ser Leu Arg Gly Ser
            260                 265                 270
Ser Tyr Ser Asn Tyr Asp Asp Ala Ala Ala Asp Tyr Glu Pro Ile Ser
        275                 280                 285
Thr Thr Glu Ser Ile Tyr Glu Asn Ile Tyr Glu Ser Ile Asp Gly Ser
    290                 295                 300
Ser Ile Ser Asp Pro Glu Asn Thr Ser Gly Gly Ala Ala Ala Ala Leu
305                 310                 315                 320
Asn Ser Leu
```

<210>1019
<211>426
<212>PRT
<213>Chlamydia trachomatis
<400>1019

```
Met Pro Gly Ile Lys Val Phe Gly Glu Thr Val Leu Arg Gly Ser Val
  1               5                  10                  15
Arg Val Ser Gly Ala Lys Asn Ala Thr Thr Lys Leu Leu Val Ala Ser
             20                  25                  30
Leu Leu Ser Asp Gln Arg Thr Ile Leu Lys Asn Val Pro Asn Ile Glu
         35                  40                  45
Asp Val Arg Gln Thr Val Asp Leu Cys Arg Val Leu Gly Ala Ile Val
     50                  55                  60
Glu Trp Asp Gln Gln Ala Gln Val Ile Glu Ile His Thr Pro Arg Ile
 65                  70                  75                  80
Leu Leu Ser Lys Val Pro Pro Gln Phe Ser Cys Val Asn Arg Ile Pro
                 85                  90                  95
Ile Leu Leu Leu Gly Ala Leu Leu Arg Arg Cys Pro Tyr Gly Ile Phe
            100                 105                 110
Val Pro Ile Leu Gly Gly Asp Ala Ile Gly Pro Arg Thr Leu His Phe
        115                 120                 125
His Leu Glu Gly Leu Lys Lys Leu Gly Ala Glu Ile Val Ile Ser Asp
    130                 135                 140
Glu Gly Tyr Trp Ala Ser Ala Pro Asn Gly Leu Val Gly Ala His Ile
145                 150                 155                 160
Thr Leu Pro Tyr Pro Ser Val Gly Ala Thr Glu Asn Leu Ile Leu Ala
                165                 170                 175
Ser Val Gly Ala Gln Gly Arg Thr Ile Ile Lys Asn Ala Ala Leu Glu
            180                 185                 190
Val Glu Ile Ile Asp Leu Ile Val Phe Leu Gln Lys Ala Gly Val Glu
        195                 200                 205
Ile Thr Thr Asp Asn Asp Lys Thr Ile Glu Ile Phe Gly Cys Gln Asp
    210                 215                 220
Phe Tyr Ser Val Glu His Phe Ile Ile Pro Asp Lys Ile Glu Ala Ala
225                 230                 235                 240
Ser Phe Gly Met Ala Ala Val Val Ser Gln Gly Arg Ile Phe Val Glu
                245                 250                 255
Gln Ala Arg His Glu His Met Ile Pro Phe Leu Lys Val Leu Arg Ser
            260                 265                 270
Ile Gly Gly Gly Phe Ser Val His Glu Asn Gly Ile Glu Phe Phe Tyr
        275                 280                 285
Asp Lys Pro Leu Lys Gly Gly Val Leu Leu Glu Thr Asp Val His Pro
    290                 295                 300
Gly Phe Ile Thr Asp Trp Gln Gln Pro Phe Ala Val Leu Leu Ser Gln
305                 310                 315                 320
Ser Glu Gly Cys Ser Val Ile His Glu Thr Val His Glu Asn Arg Leu
                325                 330                 335
```

```
Gly Tyr Leu Lys Gly Leu Val Lys Met Gly Ala His Cys Asp Leu Phe
            340                 345                 350
His Glu Cys Leu Ser Ala Lys Ser Cys Arg Tyr Ser Thr Gly Asn His
        355                 360                 365
Pro His Ser Ala Val Ile His Gly Pro Thr Pro Leu Gln Ala Thr Asp
    370                 375                 380
Leu Val Ile Pro Asp Leu Arg Ala Gly Phe Ala Tyr Val Met Ala Ala
385                 390                 395                 400
Leu Ile Ala Glu Ala Glu Pro His Gly Leu Arg Ile Pro Arg Cys Trp
                405                 410                 415
Ile Glu Gly Thr Leu Ile Gly Glu Gly Asn
            420                 425
```

<210>1020
<211>209
<212>PRT
<213>Chlamydia trachomatis
<400>1020

```
Trp Arg Ile Gln Leu Arg Asn Asn Arg Cys Arg Ser Tyr Ala Tyr Arg
  1               5                  10                  15
Ile Gln Gln Asp Gln Ala Asp Arg Ile Leu Ile Val Thr Asp Ser Gly
            20                  25                  30
Gln Ser Leu His Phe Gln Leu Leu Glu Ala Thr Cys Leu Ala Ala Gly
        35                  40                  45
Tyr Leu Pro Ser Lys Gly Ile Phe Ser His Val Gly Phe Gly Leu Val
    50                  55                  60
Leu Asp Thr Gln Gly Arg Lys Phe Lys Thr Arg Ser Gly Glu Asn Ile
65                  70                  75                  80
Lys Leu Arg Glu Leu Leu Asp Thr Ala Val Glu Lys Ala Lys Glu Ser
                85                  90                  95
Leu Lys Ala His Arg Pro Asp Ile Ser Glu Glu Glu Leu Ala Tyr Gln
            100                 105                 110
Gly Pro Ile Leu Gly Ile Asn Ala Ile Lys Tyr Ala Asp Leu Ser Ser
        115                 120                 125
His Arg Ile Asn Asp Tyr Val Phe Ser Phe Glu Lys Met Leu Arg Phe
    130                 135                 140
Glu Gly Asn Thr Ala Met Ser Leu Leu Tyr Ala Tyr Val Arg Ile Gln
145                 150                 155                 160
Gly Ile Lys Arg Arg Met Gly Leu Glu Ser Leu Pro Gln Glu Gly Pro
                165                 170                 175
Leu Ala Ile His Glu Pro Ala Glu Glu Ala Leu Xaa Leu Leu Phe Tyr
            180                 185                 190
Val Ser Leu Lys Phe Trp Thr Ser Pro Ser Glu Asn Ser Val Leu Xaa
        195                 200                 205
Ser
```

<210>1021
<211>337
<212>PRT
<213>Chlamydia trachomatis
<400>1021

```
Met Thr Thr Leu Leu Ser Phe Leu Thr Ser Leu Cys Ser Ala Ala Ile
  1               5                  10                  15
His Gln Ala Phe Pro Glu Leu Glu Glu Leu Thr Leu Asp Ile Thr Pro
            20                  25                  30
Ser Thr Lys Glu His Phe Gly His Tyr Gln Cys Asn Asp Ala Met Lys
        35                  40                  45
Leu Ala Arg Val Leu Arg Lys Ser Pro Arg Ala Ile Ala Glu Ser Ile
    50                  55                  60
Val Ala His Ile Pro Pro Ala Pro Phe Ser Ser Ile Glu Ile Ala Gly
65                  70                  75                  80
Ala Gly Phe Ile Asn Phe Thr Phe Ser Lys Glu Phe Leu Ala Ser Gln
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                85                  90                  95
Leu Gln Thr Phe Ser Lys Glu Leu Ala Asn Gly Phe Arg Ala Ala Ser
            100                 105                 110
Pro Gln Lys Val Ile Ile Asp Phe Ser Ser Pro Asn Ile Ala Lys Asp
        115                 120                 125
Met His Val Gly His Leu Arg Ser Thr Ile Ile Gly Asp Cys Leu Ala
    130                 135                 140
Arg Cys Phe Ser Phe Val Gly His Asp Val Leu Arg Leu Asn His Ile
145                 150                 155                 160
Gly Asp Trp Gly Thr Ala Phe Gly Met Leu Ile Thr Tyr Leu Gln Glu
                165                 170                 175
Thr Ser Gln Glu Ala Ile His Gln Leu Glu Asp Leu Thr Ala Leu Tyr
            180                 185                 190
Lys Lys Ala His Ala Arg Phe Ala Glu Asp Ser Glu Phe Lys Lys Arg
        195                 200                 205
Ser Gln His Asn Val Val Ala Leu Gln Ser Gly Asp Ala Gln Ala Leu
    210                 215                 220
Ala Leu Trp Ile Gln Ile Cys Ser Val Ser Glu Lys Ser Phe Gln Thr
225                 230                 235                 240
Ile Tyr Ser Ile Leu Asp Val Glu Leu His Thr Arg Gly Glu Ser Phe
                245                 250                 255
Tyr Asn Pro Phe Leu Ala Glu Val Val Ala Asp Leu Glu Ser Lys Asn
            260                 265                 270
Leu Val Thr Leu Ser Asp Gly Ala Lys Cys Val Phe His Glu Ala Phe
        275                 280                 285
Ser Ile Pro Leu Met Ile Gln Lys Ser Asp Gly Gly Tyr Asn Tyr Ala
    290                 295                 300
Thr Thr Asp Val Ala Ala Met Pro Ile Ala Ser Asn Lys Ile Arg Pro
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Phe
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         35                  40                  45
Thr Val Lys Gly Ala Ala Ile Ile Ala Ala Asn His Val Ser Phe Leu
     50                  55                  60
Asp Pro Ile Ile Ile Pro Leu Ala Phe Pro Gly Lys Leu Tyr Gln Leu
 65                  70                  75                  80
Ala Lys Ser Gly Leu Phe Ser Asn Ser Phe Thr Asn Arg Leu Phe Arg
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Glu Leu Gly Cys Tyr Pro Ile Ser Arg Asn Ala Gly Asn Ala Ala Ala
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Phe Lys Ala Ala Leu Asn Ile Phe Ser His Gly Gly Arg Leu Ile Ile
        115                 120                 125
Tyr Pro Glu Gly Thr Arg His Ala Asp Gly Glu Ile His Gln Gly Lys
    130                 135                 140
Val Gly Val Gly Met Leu Ala Ile Lys Gly Asn Val Pro Val Ile Pro
145                 150                 155                 160
Val Tyr Val Ala Gly Thr Phe Glu Ala Phe Gly Lys Asn Gln Lys Phe
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Pro Lys Leu Trp Arg Thr Leu Thr Thr Val Ile Gly Ser Pro Ile Ser
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            180                 185                 190
Phe Gln Asp Leu Ile Asp Asn Pro Ala Ile Asp Lys Lys Glu Ala Tyr
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Gln Leu Ala Thr Asp Arg Ile Met Thr Lys Ile Thr Glu Leu Arg Thr
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         35                  40                  45
Glu Val Pro Leu Glu Asp Phe Leu Ala Ser Pro Pro Phe Ser Phe Ser
     50                  55                  60
Phe Ser Lys Asp Ser Pro Leu Gln Ala Phe Tyr Gly Asp Arg Leu Leu
 65                  70                  75                  80
Thr Ser Glu Leu Ser Ser Gln Glu Val Ala Asn Phe Ala Ser Leu Phe
                 85                  90                  95
Ser Lys Glu Pro Leu Val Arg Ala Tyr Met Gln Thr Leu Gln Lys Gln
            100                 105                 110
Tyr Ala Thr Val Gly Asn Cys Val Phe Glu Gly Arg Asp Met Gly Ser
        115                 120                 125
Lys Val Phe Pro His Ala Glu Val Lys Ile Phe Leu Thr Ala Lys Pro
    130                 135                 140
Glu Ile Arg Ala Glu Arg Arg Leu Lys Asp Leu Pro Gln Gly Ser Leu
145                 150                 155                 160
Pro Lys Glu Ala Leu Met Ala Glu Leu Ile Ala Arg Asp Gln Ala Asp
                165                 170                 175
Gln Gln Arg Glu Cys Asp Pro Leu Val Ile Pro Gln Asp Ala Ile Val
            180                 185                 190
Ile Asp Ser Ser Asp Leu Thr Ile Ser Gln Ile Leu Glu Lys Ile Leu
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Pro Leu Ile Pro Ser His Leu Thr
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Arg Leu Val Val His Ser Ile Leu Leu Thr Phe Leu Val Ile Leu Leu
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Cys Thr Ser Leu Tyr Pro Ser Ser Ala Phe Ile Val Gly Leu Leu Ser
         35                  40                  45
Ser Ala Cys Ala Ala Leu Gly Thr Tyr Glu Met Gly Ala Met Val Arg
     50                  55                  60
Ile Lys Phe Pro Phe Ser Phe Thr Arg Tyr Ser Ala Leu Gly Ser Ala
 65                  70                  75                  80
Ile Phe Ile Ala Leu Thr Cys Leu Thr Ala Arg Cys Lys Met Tyr Phe
                 85                  90                  95
Pro Glu His Ile Asp Leu Leu Pro Trp Phe Phe Leu Phe Phe Trp Thr
            100                 105                 110
Ile Arg Leu Val Phe Lys Ser Arg His Tyr Lys Leu Gly Pro Ile Gly
        115                 120                 125
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Ser Thr Gly Leu Ala Leu Phe Cys Met Leu Tyr Val Ser Leu Pro Ile
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Arg Leu Phe Leu His Ile Leu Tyr Gly Phe Val His Thr Asp Thr Pro
145                 150                 155                 160
Phe Val Gly Ile Trp Trp Ala Ile Phe Leu Ile Ala Thr Thr Lys Ser
                165                 170                 175
Ser Asp Ile Phe Gly Tyr Phe Phe Gly Lys Ala Phe Gly Lys Lys Arg
            180                 185                 190
Ile Ala Pro Val Ile Ser Pro Asn Lys Thr Val Val Gly Phe Ile Ala
        195                 200                 205
Gly Cys Cys Gly Ser Ile Leu Val Ser Leu Leu Phe Tyr Ser His Leu
    210                 215                 220
Pro Lys Ala Phe Ala Asp Gln Ile Ala Val Pro Arg Ile Leu Val Ala
225                 230                 235                 240
Leu Gly Thr Val Leu Gly Val Ser Gly Phe Phe Gly Asp Ile Ile Glu
                245                 250                 255
Ser Thr Phe Lys Arg Asp Ala Gln Ile Lys Asn Ser Ser Asp Leu Glu
            260                 265                 270
Ser Ile Gly Gly Met Leu Asp Val Leu Asp Ser Leu Leu Leu Ser Thr
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             20                  25                  30
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         35                  40                  45
Gln Ala Ser Ser Ala Thr Ala His Tyr Ser Arg Met Glu Leu Ile Phe
     50                  55                  60
Ala Ile Asn Tyr Gly Ser Lys Asp Glu Leu Val Arg Ala Phe Lys Glu
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Leu His Gln Asp Leu Ala Ser Lys Lys Ile Ser Val Asn Asp Ile Ser
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Glu Glu Leu Ile Ser Ser Tyr Leu Asp Thr Ser Gly Leu Pro Asp Pro
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Asp Leu Leu Ile Arg Thr Gly Gly Glu Met Arg Val Ser Asn Phe Leu
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Leu Trp Gln Ile Ala Tyr Thr Glu Leu Tyr Val Thr Asp Val Leu Trp
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Pro Asp Phe Thr Ala Asn Asp Leu Leu Glu Ala Ile Lys Thr Tyr Gln
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Gln Arg Ser Arg Arg Gly Gly Lys
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Leu Thr Leu Phe Ala Phe Ser Thr Glu Asn Phe Ser Arg Ser Lys Ser
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          35                  40                  45
Glu Val Ala Glu Leu Phe Ser Leu Phe Asn Ser Gln Leu Arg Arg Xaa
      50                  55                  60
Ser Leu Ser Tyr Met Ile Gly Arg Ser Asp Tyr Gly Val Leu Ala Thr
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Tyr Arg Asn Phe Leu Lys Asn Tyr Lys Thr Thr Leu Ser Lys Pro Pro
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Pro Arg Gln Leu Ile Thr Pro Ala Trp Ser
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Asp Arg Val Gln Ser Met Asn Trp Val Gln Arg Ile Val Pro Ser Leu
          35                  40                  45
Ile Val Leu Leu Gly Ile Ser Val Leu Gly Cys Ser Val Leu Ala Phe
      50                  55                  60
Cys Thr Cys Leu Thr Val Leu Pro Gly Leu Gly Leu Val Ile Leu Gly
 65                  70                  75                  80
Ser Leu Leu Leu Tyr Trp Ala Tyr His Gln Ile Ala Asn Met Arg Val
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Arg Met Ala Leu Ser Phe Glu Ala Ser Ser Glu Ala Pro Ile Gln
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Leu Ser Thr Leu Lys Leu Arg Gly Asp Ile Lys Xaa His Pro Ser Ile
          35                  40                  45
Pro Gly Ile Val Asn Val His Phe Pro Leu Ala Glu Asp Ala Ala Leu
      50                  55                  60
Phe Ile Asp Asn Val Val His Gly Glu Pro Ser Val Pro Val Lys Ser
 65                  70                  75                  80
Ala Arg Leu Tyr Val Val Gly Ser Ser Glu Phe Thr Gly Glu Thr Val
                 85                  90                  95
Val Gln Ile Ser Gly Ser Leu Val Thr Ser Leu Thr Glu Glu Asp Leu
            100                 105                 110
Ser Phe Val Ser Tyr Glu Asp Lys Asp Val Thr Val Ser Gln Glu Leu
          115                 120                 125
Glu Asn Leu Ala Thr Asn Leu Phe Ile Glu Ser Glu Arg Pro Cys Glu
      130                 135                 140
Cys Gly Tyr Tyr Ser Leu Trp Asp Ser Met Pro Ile Glu Lys Val Ile
145                 150                 155                 160
His Val Thr Arg Asn Ile Cys Ser Gly Leu Arg Leu Leu Pro Thr Arg
                165                 170                 175
Lys Thr Gln Val Phe Leu Ser Arg Cys Leu Gly Thr Glu Arg Asp Phe
            180                 185                 190
Thr Ala Phe Leu Ala Arg Leu Glu Lys Ala Leu Gln His Glu Glu Val
          195                 200                 205
Lys Glu Ala Arg Glu Glu Leu Lys Asp Ala Ser Tyr Leu Leu His Ser
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Arg Asn Leu Arg Trp Asn Ser Ile Ser Pro Lys Val Val Gly Asn Val
225                 230                 235                 240
Val Asp Cys Ser Glu Leu Ser Pro Cys Phe Ser Ser Met Ser Leu Thr
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Ala Asp Gly Lys Leu Leu Phe His Phe Asp Ala Glu Val Ala Ala Asn
            260                 265                 270
Arg Gln Gln Leu Val Gly Asn Glu Arg Leu Asp Leu Glu Arg Leu Phe
        275                 280                 285
Ala Met Glu Lys Gln His Ile Ala Thr Arg Leu Asn Arg Ser Val Glu
    290                 295                 300
Glu Thr Glu Phe Gly Phe Ala Val Arg Leu Arg Asp Glu Ala Ala Ser
305                 310                 315                 320
Gly Lys Ile Val Leu Gln Gly His Arg Val Cys Gln Arg Ile Val Glu
                325                 330                 335
His Leu Thr Ala Leu Val Leu Asn Arg Pro Leu Ala Glu Thr Cys Asp
            340                 345                 350
Leu Ser Thr Glu Asn Phe Pro Val Tyr Gly Arg Glu Pro Leu Asp Ser
        355                 360                 365
Asp Ala Leu Gly Cys Phe Ile Phe Ser Pro Glu Arg Ser Cys Arg His
    370                 375                 380
Phe Ser Lys Gly Ser Val Tyr Ile Val Phe Lys Gly Leu Arg Ser Ile
385                 390                 395                 400
Val Ala Lys Tyr Glu His Ala Gly Ala Glu Glu Ala Ala Leu Leu Gln
                405                 410                 415
His Asp Leu Gln Asn Leu Tyr Ala Cys Phe Ile His Thr Asp Ala Val
            420                 425                 430
Ser Trp Ser Leu Gly Glu Asp Arg Val Leu Glu Ile Lys Glu Pro Leu
        435                 440                 445
Gln Arg Val Ile Arg Ile Trp Gly Glu Glu Phe Val Gln Ser Phe Gly
    450                 455                 460
Lys Ala Ser Leu Glu Val Arg Asp Val Arg Asp Arg Leu Ala Val Val
465                 470                 475                 480
Asn Arg Ile Glu Lys Thr Gln His Ala Glu Leu Val Arg Trp Asp Glu
                485                 490                 495
Gln Tyr Arg Gln Ala Gln Cys Ser Met Asn Pro Gln Val Arg Leu Arg
            500                 505                 510
Ala Ala Ile Pro His Lys Asn Val Phe Phe Glu Asn Leu Lys Leu Asn
        515                 520                 525
Ile Arg Lys Tyr Ser Arg Gly Glu His Val Leu Arg Phe Gly Thr Asp
    530                 535                 540
Phe Val Gly Gly Lys Gln Ile Arg Ile Ala Phe Arg Asp His Gln Gly
545                 550                 555                 560
Asn Leu Leu Thr Asp Lys Ala Gly Ile Asp Lys Val Ser Asp Glu Leu
                565                 570                 575
Tyr Ala Arg Leu Asn Lys Leu Gly Val Ser Glu Val Gly Met Gln Arg
            580                 585                 590
Glu Gly Asp His Ile Gln Val Ser Val Pro Gly Ala Ala Gly Ile Ser
        595                 600                 605
Ser Ala Asp Ile Leu Gly Thr Ser Lys Met Ser Phe His Val Val Asn
    610                 615                 620
Glu Gln Phe Ser Ser Arg Ser Pro Leu Arg Tyr Glu Val Gln Thr Phe
625                 630                 635                 640
Leu Asp Tyr Leu Trp Phe Thr Ala Arg Ser Leu Asp Glu Cys Ser Pro
                645                 650                 655
Gln Ala Ile Asn Arg Leu Ala Gly Ala Leu Phe His Gly Asp Asn Gly
            660                 665                 670
Ser Ala Pro Ala Asn Val Arg Val Ala Val Glu Lys Leu Arg Glu Ala
        675                 680                 685
Gly Leu Ser Phe Ser Lys Glu Leu Glu Gly Gly Ser Ala Ser Leu Asp
    690                 695                 700
Thr Gln Tyr Ser Met Ile Ala Ile Glu Lys Glu Ser Arg Glu Gln Val
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705                 710                 715                 720
Asn Pro Leu Met Ile Val Phe Arg Asn His Ala Leu Glu Gly Ala Ser
                725                 730                 735
Leu Lys Asn Ile Arg Pro Glu Phe Ala Val Gly Glu Gly Tyr Val Leu
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Asn Phe Gly Val Lys Asp Lys Ala Thr Phe Ser Asp Gly Arg Glu Thr
        755                 760                 765
Pro Val Gln Gln Phe His Ala Trp Thr Ser Lys Phe Cys Gln Glu Gly
    770                 775                 780
Val Ser Gly Thr Lys Asn Gly Leu Phe Ser Gly Gly Arg Gly Trp Arg
785                 790                 795                 800
Met Ala Val Val Leu Asp Gly Tyr Val Ile Ser Asp Pro Val Leu Asn
                805                 810                 815
Val Pro Leu Lys Asp His Ala Ser Val Ser Gly Xaa Phe Ser Tyr Arg
            820                 825                 830
Glu Val His Arg Leu Ala Thr Asp Leu Lys Ser Gly Ala Met Ser Phe
        835                 840                 845
Ile Pro Glu Ile Leu Ser Glu Glu Val Val Ser Pro Glu Leu Gly Ser
    850                 855                 860
Ser Gln Arg Val Gln Gly Ile Leu Ser Val Val Leu Gly Leu Val Val
865                 870                 875                 880
Leu Ile Val Leu Met Ser Val Tyr Tyr Arg Phe Gly Gly Val Ile Ala
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Ser Ile Ala Val Leu Leu Asn Leu Leu Leu Ile Trp Ala Ser Met Gln
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Tyr Leu Asp Ala Pro Leu Thr Leu Ser Gly Leu Ala Gly Ile Ile Leu
        915                 920                 925
Ala Met Gly Met Ala Val Asp Ala Asn Val Leu Val Phe Glu Arg Ile
    930                 935                 940
Arg Glu Glu Tyr Leu Leu Thr Arg Ser Leu Ser Glu Ser Val Glu Ala
945                 950                 955                 960
Gly Tyr Lys Lys Ala Phe Ser Ala Ile Phe Asp Ser Asn Leu Thr Thr
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Ile Leu Ala Ser Ala Leu Leu Leu Met Leu Asp Thr Gly Pro Ile Lys
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Gly Phe Ala Leu Thr Leu Ile Ile Gly Ile Phe Ser Ser Met Phe Thr
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Ala Leu Phe Met Thr Lys Phe Phe Phe Val Ile Trp Val Gln Lys Thr
    1010                1015                1020
Arg Glu Thr Gln Leu His Met Met Asn Lys Phe Ile Gly Ile Lys His
1025                1030                1035                1040
Asn Phe Leu Lys Glu Cys Lys Arg Leu Trp Val Val Ser Gly Val Val
                1045                1050                1055
Leu Val Leu Gly Cys Val Gly Leu Gly Phe Gly Ala Trp Asp Ser Val
            1060                1065                1070
Phe Gly Met Asp Phe Lys Gly Gly Tyr Ala Leu Thr Leu Asp Ser Asp
        1075                1080                1085
Val Cys Glu Tyr Asn Pro Glu Gln Met Cys Ser Val Leu Arg Lys Arg
    1090                1095                1100
Phe Gln Gln Ile Gly Leu Ser Ser Arg Asp Tyr Arg Val Arg Arg Ala
1105                1110                1115                1120
Asp Ser Ser Gly Lys Val Lys Ile Tyr Leu Ser Gln Asn Ala Leu Asp
                1125                1130                1135
Arg Val Glu Gln Ile Glu Gly Ala Gly Ser Glu Gln Lys Gly Ser Asp
            1140                1145                1150
Tyr His Leu Ala Arg Val Leu Gln Val Leu Ser Asp Ser Gly Ser Ser
        1155                1160                1165
Thr Thr Ser Met Val Phe Asp Ala Ser Arg Gly Ser Trp Phe Lys Val
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Ser Gly Gln Leu Ser Asn Lys Met Arg Thr Gln Ala Val Ile Ala Leu
1185                1190                1195                1200
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Phe Gly Ala Leu Gly Ile Ile Leu Leu Tyr Val Ser Leu Arg Phe Glu
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Trp Arg Tyr Ala Phe Ser Ala Ile Cys Ala Leu Met His Asp Leu Leu
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    1250
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             20                  25                  30
Ile Ile Phe Asp Arg Ile Arg Glu Asp Arg Arg Glu Lys Leu Phe Thr
         35                  40                  45
Pro Met Pro Ile Leu Ile Asn Asp Ala Leu Gln Lys Thr Leu Gly Arg
     50                  55                  60
Thr Val Met Thr Thr Ala Thr Thr Leu Ser Val Leu Val Ile Leu Leu
 65                  70                  75                  80
Phe Val Gly Gly Gly Ser Ile Phe Asn Phe Ala Phe Ile Met Thr Val
                 85                  90                  95
Gly Ile Leu Leu Gly Thr Leu Ser Ser Leu Tyr Ile Ala Pro Pro Leu
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Gly Gly Ala Met Tyr Asn Glu Asp Ser Val Pro Asn Lys Ile Pro Thr
         35                  40                  45
Val Ile Met Asn Ala Lys Leu Lys Ile Glu Pro Pro Pro Thr Asn Asn
     50                  55                  60
Lys Met Thr Ser Thr Asp Arg Val Val Ala Val Val Ile Thr Val Arg
 65                  70                  75                  80
Pro Asn Val Phe Cys Asn Ala Ser Leu Ile Lys Ile Gly Ile Gly Val
                 85                  90                  95
Asn Ser Phe Ser Arg Arg Ser Ser Arg Ile Arg Ser Lys Ile Ile Asn
            100                 105                 110
Val Leu Phe Lys Glu Tyr Pro Ser Thr Val Ile Asn Ala Pro Ile Ala
        115                 120                 125
Cys Lys Ser Ile Cys Asn Ser Leu Gln Lys Glu Met
    130                 135                 140
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Leu Gly Gln Lys Trp Asp Tyr Pro Lys His Asn Glu Val Phe Leu Lys
             20                  25                  30
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Lys Ile Leu Lys Glu Phe His Leu His Pro Ala Ile Ala Gln Val Leu
          35                  40                  45
Ile Ser Arg Gly Phe Gln Ser Ile Gln Glu Ile Arg Asp Phe Leu Tyr
      50                  55                  60
Pro Gln Leu Ser Ser Leu His Ser Thr Ser Leu Phe Leu Asp Met Glu
 65                  70                  75                  80
Lys Ala Val Ala Arg Leu Leu Gln Ala Lys Ala Asn Asn Glu His Val
                 85                  90                  95
Met Ile Tyr Gly Asp Gly Asp Val Asp Gly Ile Thr Gly Val Thr Leu
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Ile Val Glu Phe Leu Gln Ile Leu Gly Val Lys Thr Ser Tyr Cys
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            20                  25                  30
Gln Asp Gly Ile Ser Leu Leu Ile Thr Val Asp Cys Gly Ile Thr Ala
        35                  40                  45
Gly Lys Glu Val Gln Ala Ile Asn Lys Gln Gly Ile Asp Val Ile Val
      50                  55                  60
Thr Asp His His Met Pro Thr Gly Lys Leu Pro His Cys Ile Ala Met
 65                  70                  75                  80
Leu Asn Pro Lys Leu Asp Lys Asn Pro Tyr Pro Asn Lys Glu Leu Thr
                 85                  90                  95
Gly Val Gly Val Ala Phe Lys Leu Val Cys Ala Thr Tyr Glu Glu Leu
            100                 105                 110
Ile Gln Gln Asp Ala Ser Trp Lys Asp Lys Ile Asp Leu Leu Arg Phe
        115                 120                 125
Leu Asp Leu Val Ser Leu Gly Thr Ile Ala Asp Val Gly Arg Leu Ser
    130                 135                 140
Gly Glu Asn Arg Ile Leu Val Ser Tyr Gly Ile Lys Glu Ile Ala Lys
145                 150                 155                 160
Gly Lys Arg Leu Gly Leu Lys Lys Leu Cys Ser Leu Ser Gly Val Asp
                165                 170                 175
Lys Ser Glu Val Ser Ser Thr Asn Leu Gly Ile Arg Ile Thr Pro Lys
            180                 185                 190
Leu Asn Ser Leu Gly Arg Leu Ala Asp Ser Ser Gln Gly Val Lys Leu
        195                 200                 205
Leu Leu Ser Gln Asp Pro Lys Asn Ile Gly Thr Ile Val Ser Glu Leu
    210                 215                 220
Ser Ala Val Asn Gln Glu Arg Gln Arg Ile Glu Ala Glu Val Leu Arg
225                 230                 235                 240
Asp Val Glu Arg Ile Leu Ala Ala Asn Pro Lys Leu Thr Ala Gln Ser
                245                 250                 255
Ala Ile Val Leu Ala Ser Pro Asn Trp His Ser Arg Val Ile Pro Ile
            260                 265                 270
Ile Ser Ala Arg Leu Ala Arg Thr Tyr Asn Lys Pro Val Ala Ile Ile
        275                 280                 285
Ala Leu Gln Asp Gly Ile Gly Lys Gly Ser Leu Arg Thr Ile Gly Ser
    290                 295                 300
Phe Pro Leu Leu Gly Val Leu Arg Lys Cys Glu Ser Phe Phe Leu Ser
305                 310                 315                 320
Tyr Gly Gly His Asp Phe Ala Ala Gly Leu Met Ile Lys Glu Asp Gln
                325                 330                 335
Val Glu Gly Phe Arg Lys Lys Phe Ile His Leu Val Ser Ser Ser Leu
            340                 345                 350
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Arg Lys Asp Asp Ala Met Arg Thr Leu Ser Leu Asp Val Gly Met Asp
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    370                 375                 380
Pro Phe Gly Lys Gly Asn Val Ser Pro Val Phe Tyr Thr Lys Ala Ile
385                 390                 395                 400
Gln Val Arg Tyr Pro Lys Leu Leu Ala Gly Asn His Val Lys Leu Tyr
                405                 410                 415
Leu Asn Ser Gly Glu Arg Asn Leu Glu Gly Thr Ala Phe Gly Gln Gly
            420                 425                 430
Asp Lys Ile Ser Leu Leu Lys Ala Asn Trp Asn Ile Pro Leu Asp Ile
        435                 440                 445
Ala Tyr Thr Leu Arg Ile Met Arg Arg Ser Ala Arg Gly Ala Ile Arg
    450                 455                 460
Leu Leu Ile Gln Asp Phe Arg Ile Gln Ile Pro Arg Leu
465                 470                 475
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            20                  25                  30
Ala Val Pro Val Thr Ser Gln Arg Val Ser Ile Thr Gln Ala Ala Lys
        35                  40                  45
Leu His Asn Val Thr Arg Gln Ala Ile Tyr Val Ala Ile Lys Gln Lys
    50                  55                  60
Lys Leu Lys Ala Ser Lys Thr Thr Arg Trp Glu Ile Asp Leu Gln Asp
65                  70                  75                  80
Leu Glu Asp Tyr Arg Arg Asn Arg Tyr Ser Arg Ala Lys Ser Thr Tyr
                85                  90                  95
Gln Gly Glu Leu Leu Phe Asp Asn Glu Lys Gly Phe Tyr Ser Val Gly
            100                 105                 110
Gln Val Ala Ser Met Leu Asp Val Pro Glu Gln Lys Ile Tyr Tyr Ala
        115                 120                 125
Thr Arg Ile Gly Ala Met Lys Gly Glu Arg Arg Gly Ser Ala Trp Val
    130                 135                 140
Ile His Val Ser Glu Val Asp Arg Tyr Arg Asn Asp Tyr Leu Lys Lys
145                 150                 155                 160
Glu Ala Glu Arg Lys Gly Lys Ser Leu Ala Ala Met Arg Glu Gly Phe
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Glu Ala Leu Gly Ala Asp Leu Leu Ala Asp Ala Glu Asn Phe Ile Ser
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            20                  25                  30
Ala Arg Lys Tyr Asn Gly Gln Met Ile Leu Arg Ile Glu Asp Thr Asp
        35                  40                  45
Gln Thr Arg Ser Arg Asp Asp Tyr Glu Ala Asn Ile Phe Leu Ala Leu
    50                  55                  60
Lys Trp Cys Gly Ile Arg Trp Asp Glu Gly Pro Asp Val Gly Gly Ala
65                  70                  75                  80
Tyr Gly Pro Tyr Arg Gln Ser Glu Arg Thr Glu Ile Tyr Lys Lys Tyr
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                    85                  90                  95
Ala Glu Ile Leu Leu Gln Thr Asp Cys Ala Tyr Lys Cys Phe Ala Thr
                100                 105                 110
Pro Gln Glu Leu Gln Glu Met Arg Ala Val Ala Ser Thr Leu Gly Tyr
        115                 120                 125
Arg Gly Gly Tyr Asp Arg Arg Tyr Arg Tyr Leu Ser Pro Glu Glu Val
    130                 135                 140
Arg Gln Arg Glu Glu Gln Gly Gln Pro Tyr Thr Ile Arg Leu Lys Val
145                 150                 155                 160
Pro Leu Thr Gly Glu Ser Val Phe Glu Asp Gln Cys Lys Gly Arg Val
                165                 170                 175
Val Phe Pro Trp Ala Asp Val Asp Asp Gln Val Leu Val Lys Ser Asp
            180                 185                 190
Gly Phe Pro Thr Tyr His Phe Ala Asn Val Val Asp Asp His Leu Met
        195                 200                 205
Gly Ile Thr His Val Leu Arg Gly Glu Glu Trp Leu Ser Ser Thr Pro
    210                 215                 220
Lys His Leu Leu Leu Tyr Lys Ala Phe Gly Trp Glu Pro Pro Gln Phe
225                 230                 235                 240
Phe His Met Pro Leu Leu Leu Asn Pro Asp Gly Ser Lys Leu Ser Lys
                245                 250                 255
Arg Lys Asn Pro Thr Ser Ile Phe Tyr Tyr Arg Asp Ala Gly Tyr Lys
            260                 265                 270
Lys Glu Ala Phe Met Asn Phe Leu Thr Leu Met Gly Tyr Ser Met Glu
        275                 280                 285
Gly Asp Glu Glu Ile Tyr Ser Met Gln Arg Leu Ile Glu Ala Phe Asp
    290                 295                 300
Pro Lys Arg Ile Gly Arg Ser Gly Ala Val Phe Asp Ile Arg Lys Leu
305                 310                 315                 320
Asp Trp Met Asn Lys His Tyr Leu Asn His Glu Gly Ser Pro Glu Ser
                325                 330                 335
Leu Leu Gln Glu Leu Lys Gly Trp Leu Trp Asn Asp Glu Phe Leu Leu
            340                 345                 350
Lys Ile Leu Pro Leu Cys Gln Ser Arg Ile Thr Thr Leu Ala Asp Phe
        355                 360                 365
Val Gly Leu Thr Ser Phe Phe Phe Thr Ala Ile Pro Gln Tyr Ser Lys
    370                 375                 380
Glu Glu Leu Leu Pro Ser Ser Leu Lys Gln Glu Gln Ala Ala Val Met
385                 390                 395                 400
Leu Tyr Ser Leu Val Lys Tyr Leu Glu Lys Lys Asp Leu Trp Glu Lys
                405                 410                 415
Asp Phe Phe Tyr Gln Gly Ser Lys Trp Leu Ala Glu Ala Phe Gln Val
            420                 425                 430
His His Lys Lys Ala Val Ile Leu Cys Tyr Met Trp Leu Leu Leu Val
        435                 440                 445
Gln Asn Arg Asp Phe Leu Phe Leu Ile Arg Trp Asn Tyr
    450                 455                 460
<210>1035
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<212>PRT
<213>Chlamydia trachomatis
<400>1035
Met Lys Lys Thr Ala Leu Leu Ala Ala Leu Cys Ser Val Val Ser Leu
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             20                  25                  30
Pro Ile Gln Cys Ser Pro Cys Glu Ser Lys Lys Lys Asp Val Asp Gly
         35                  40                  45
Gly Cys Asn Ser Cys Asn Gly Tyr Val Pro Ala Cys Lys Pro Cys Gly
     50                  55                  60
Gly Asp Thr His Gln Asp Ala Glu His Gly Pro Gln Ala Arg Glu Ile
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65 70 75 80
Pro Val Asp Gly Lys Cys Arg Gln
85

<210>1036
<211>553
<212>PRT
<213>Chlamydia trachomatis
<400>1036
Met Arg Ile Gly Asp Pro Met Asn Lys Leu Ile Arg Arg Ala Val Thr
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Ile Phe Ala Val Thr Ser Val Ala Ser Leu Phe Ala Ser Gly Val Leu
20 25 30
Glu Thr Ser Met Ala Glu Phe Ile Ser Thr Asn Val Ile Ser Leu Ala
35 40 45
Asp Thr Lys Ala Lys Asp Asn Thr Ser His Lys Ser Lys Lys Ala Arg
50 55 60
Lys Asn His Ser Lys Glu Thr Pro Val Asn Arg Lys Lys Val Ala Pro
65 70 75 80
Val His Glu Ser Lys Ala Thr Gly Pro Lys Gln Asp Ser Cys Phe Gly
85 90 95
Arg Met Tyr Thr Val Lys Val Asn Asp Asp Arg Asn Val Glu Ile Thr
100 105 110
Gln Ala Val Pro Lys Tyr Ala Thr Val Gly Ser Pro Tyr Pro Val Glu
115 120 125
Ile Thr Ala Thr Gly Lys Arg Asp Cys Val Asp Val Ile Ile Thr Gln
130 135 140
Gln Leu Pro Cys Glu Ala Glu Phe Val Arg Ser Asp Pro Ala Thr Thr
145 150 155 160
Pro Thr Ala Asp Gly Lys Leu Val Trp Lys Ile Asp Arg Leu Gly Gln
165 170 175
Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly
180 185 190
Cys Cys Phe Thr Ala Ala Thr Val Cys Ala Cys Pro Glu Ile Arg Ser
195 200 205
Val Thr Lys Cys Gly Gln Pro Ala Ile Cys Val Lys Gln Glu Gly Pro
210 215 220
Glu Asn Ala Cys Leu Arg Cys Pro Val Val Tyr Lys Ile Asn Val Val
225 230 235 240
Asn Gln Gly Thr Ala Thr Ala Arg Asn Val Val Val Glu Asn Pro Val
245 250 255
Pro Asp Ser Tyr Ala His Ser Ser Gly Gln Arg Val Leu Thr Phe Thr
260 265 270
Leu Gly Asp Met Gln Pro Gly Glu His Arg Thr Ile Thr Val Glu Phe
275 280 285
Cys Pro Leu Lys Arg Gly Arg Ala Thr Asn Ile Ala Met Val Ser Tyr
290 295 300
Cys Gly Gly His Lys Asn Thr Ala Ser Val Thr Thr Val Ile Asn Glu
305 310 315 320
Pro Cys Val Gln Val Ser Ile Ala Gly Ala Asp Trp Ser Tyr Val Cys
325 330 335
Lys Pro Val Glu Tyr Val Ile Ser Val Ser Asn Pro Gly Asp Leu Val
340 345 350
Leu Arg Asp Val Val Val Lys Asp Thr Leu Ser Pro Gly Val Thr Val
355 360 365
Leu Glu Ala Ala Gly Ala Gln Ile Ser Cys Asn Lys Val Val Trp Thr
370 375 380
Val Lys Glu Leu Asn Pro Gly Glu Ser Leu Gln Tyr Lys Val Leu Val
385 390 395 400
Arg Ala Gln Thr Pro Gly Gln Phe Thr Asn Asn Val Val Val Lys Ser
405 410 415
Cys Ser Asp Cys Gly Thr Cys Thr Ser Cys Ala Glu Ala Thr Thr Tyr

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            420                 425                 430
Trp Lys Gly Val Ala Ala Thr His Met Cys Val Val Asp Thr Cys Asp
        435                 440                 445
Pro Val Cys Val Gly Glu Asn Thr Val Tyr Arg Ile Cys Val Thr Asn
    450                 455                 460
Arg Gly Ser Ala Glu Asp Thr Asn Val Ser Leu Met Leu Lys Phe Ser
465                 470                 475                 480
Lys Glu Leu Gln Pro Val Ser Phe Ser Gly Pro Thr Lys Gly Thr Ile
                485                 490                 495
Thr Gly Asn Thr Val Val Phe Asp Ser Leu Pro Arg Leu Gly Ser Lys
            500                 505                 510
Glu Thr Val Glu Phe Ser Val Thr Leu Lys Ala Val Ser Ala Gly Asp
        515                 520                 525
Ala Arg Gly Glu Ala Ile Leu Ser Ser Asp Thr Leu Thr Val Pro Val
    530                 535                 540
Ser Asp Thr Glu Asn Thr His Ile Tyr
545                 550
<210>1037
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<212>PRT
<213>Chlamydia trachomatis
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Ala Gln Asp Ile Ser Thr Ser Ser Ala Pro Leu Thr Leu Lys Gly Arg
            20                  25                  30
Ile Ser Asn Leu Leu Ser Ser Thr Ala Phe Lys Val Gly Leu Val Val
        35                  40                  45
Ile Gly Leu Leu Leu Val Met Ala Thr Ile Phe Leu Val Ser Ala Ser
    50                  55                  60
Phe Val Cys Lys Ser His Leu Ser Ser Tyr Ser Cys Tyr Cys Gly Met
65                  70                  75                  80
Arg Glu Tyr Leu Arg Arg Asn Phe Ile His Gly Arg Ile Leu Phe Ser
                85                  90                  95
Gly Glu Met Glu Leu Met
            100
<210>1038
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<212>PRT
<213>Chlamydia trachomatis
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Phe Arg Pro Ala Ser Phe Val Asn Pro Ile Tyr Leu Ala Ile Pro Ala
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Ile Val Gly Cys Val Asn Ile Cys Val Gly Ile Leu Ser Met Glu Gly
            20                  25                  30
Tyr Cys Ser Pro Glu Arg Trp Ser Leu Cys Lys Lys Ile Leu Lys Ala
        35                  40                  45
Ser Glu Asp Ile Ile Asp Asp Gly Gln Ile Asn Asn Ser Asn Lys Val
    50                  55                  60
Phe Thr Asp Glu Arg Leu Asn Ala Ile Asp Gly Val Val Val Ser Leu
65                  70                  75                  80
Ser Arg Arg Asn Ser Leu Val Asp Gln Thr Gln
                85                  90
<210>1039
<211>633
<212>PRT
<213>Chlamydia trachomatis
<400>1039
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Gln Leu Ala Phe Ser Ala Glu Pro Leu Arg Arg Gln Asp Val Arg Lys
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                20                  25                  30
Thr Val Asp Lys Leu Val Glu His His Ile Asp Thr Gln Gln Ile Ser
        35                  40                  45
Pro Tyr Ile Leu Ser Arg Ser Leu Glu Asp Tyr Val Arg Ser Phe Asp
    50                  55                  60                      His Lys Ala Tyr
Leu Thr Gln Asp Glu Val Phe Ser His Ala Phe
65                  70                  75                  80
Ser Glu Glu Ala Thr His Pro Leu Phe Lys Gln Tyr Gln Glu Asp Asn
                85                  90                  95
Phe Ser Ser Phe Lys Glu Leu Asp Thr Cys Ile Gln Gln Ser Ile Ser
            100                 105                 110
Arg Ala Arg Glu Trp Arg Ser Ser Trp Leu Thr Asp Ser Ile Arg Val
        115                 120                 125
Ile Gln Asp Ala Met Ser His Thr Ile Glu Lys Lys Pro Ser Ala Trp
    130                 135                 140
Ala Ser Ser Ile Glu Glu Val Lys Gln Arg Gln Tyr Asp Leu Leu Leu
145                 150                 155                 160
Ser Tyr Ala Ser Ile Tyr Leu Glu Asp Ala Ala Lys Asn Arg Tyr Gln
                165                 170                 175
Gly Lys Glu His Gly Leu Val Lys Leu Cys Ile Arg Gln Ile Glu Asn
            180                 185                 190
His Glu Asn Pro Tyr Ile Gly Ile Asn Asp His Gly Tyr Arg Met Ser
        195                 200                 205
Pro Glu Glu Glu Ala Asn Ser Phe His Val Arg Ile Ile Lys Ser Ile
    210                 215                 220
Ala His Ser Leu Asp Ala His Thr Ala Tyr Phe Ser Gln Glu Glu Ala
225                 230                 235                 240
Leu Ser Met Arg Ala Gln Leu Glu Lys Gly Met Cys Gly Ile Gly Val
                245                 250                 255
Val Leu Lys Glu Asp Ile Asp Gly Val Val Val Lys Glu Val Leu Ala
            260                 265                 270
Gly Gly Pro Ala Asp Lys Thr Gly Ser Leu Arg Val Gly Asp Ile Ile
        275                 280                 285
Tyr Arg Val Asn Gly Lys Asn Ile Glu Asn Thr Pro Phe Pro Gly Val
    290                 295                 300
Leu Asp Ser Leu Arg Gly Ser Pro Gly Ser Ser Val Thr Leu Asp Ile
305                 310                 315                 320
His Arg Gln Asn Asn Asp His Val Ile Gln Leu Arg Arg Glu Lys Ile
                325                 330                 335
Leu Leu Asp Ser Arg Arg Val Asp Val Ser Tyr Glu Pro Tyr Gly Asn
            340                 345                 350
Gly Ile Ile Gly Lys Ile Thr Leu His Ser Phe Tyr Glu Gly Glu Asn
        355                 360                 365
Gln Val Ser Ser Glu Gln Asp Leu Arg Lys Ala Ile Arg Glu Leu Gln
    370                 375                 380
Glu Lys Asn Leu Leu Gly Leu Val Leu Asp Ile Arg Glu Asn Thr Gly
385                 390                 395                 400
Gly Phe Leu Ser Gln Ala Ile Lys Val Ser Gly Leu Phe Leu Thr Asn
                405                 410                 415
Gly Val Val Val Val Ser Arg Tyr Ala Asp Gly Ser Val Lys Arg Tyr
            420                 425                 430
Arg Thr Ile Ser Pro Gln Lys Phe Tyr Asp Gly Pro Leu Ala Val Leu
        435                 440                 445
Val Ser Lys Ser Ser Ala Ser Ala Ala Glu Ile Val Ala Gln Thr Leu
    450                 455                 460
Gln Asp Tyr Gly Val Ala Leu Ile Val Gly Asp Gln Gln Thr Tyr Gly
465                 470                 475                 480
Lys Gly Thr Ile Gln His Gln Thr Ile Thr Gly Ser Asn Ser Gln Glu
                485                 490                 495
Asp Phe Phe Lys Val Thr Val Gly Arg Tyr Tyr Ser Pro Ser Gly Lys
            500                 505                 510
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Ser Thr Gln Leu Glu Gly Val Lys Ser Asp Ile Val Ile Pro Ser Arg
515 520 525
Tyr Ala Glu Asp Lys Leu Gly Glu Arg Phe Leu Glu Tyr Ala Leu Pro
530 535 540
Ala Asp Gln Tyr Asp Asn Val Ile Asn Asp Asn Leu Gly Asp Leu Asp
545 550 555 560
Ile Asn Ile Arg Pro Trp Phe Gln Lys Tyr Tyr Ser Pro His Leu Gln
565 570 575
Lys Pro Glu Leu Val Trp Arg Glu Met Leu Pro Gln Leu Ala His Asn
580 585 590
Ser Gln Glu Arg Leu Glu Lys Asn Lys Asn Phe Glu Ile Phe Val Gln
595 600 605
His Leu Lys Lys Thr Asn Lys Gln Asp Arg Ser Phe Gly Ser Asn Asp
610 615 620
Leu Gln Met Glu Glu Cys Glu His Arg
625 630

<210>1040
<211>129
<212>PRT
<213>Chlamydia trachomatis
<400>1040
Leu Asn Arg Glu Glu Tyr Met Pro Thr Ile Asn Gln Leu Ile Arg Lys
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Lys Arg Gln Ser Gly Ala Thr Arg Lys Lys Ser Pro Ala Leu Gln Lys
20 25 30
Ser Pro Gln Lys Arg Gly Val Cys Leu Gln Val Lys Thr Lys Thr Pro
35 40 45
Lys Lys Pro Asn Ser Ala Leu Arg Lys Val Ala Trp Val Arg Leu Ser
50 55 60
Asn Gly Gln Glu Val Ile Ala Tyr Ile Gly Gly Glu Gly His Asn Leu
65 70 75 80
Gln Glu His Ser Ile Val Leu Val Gln Gly Gly Arg Xaa Lys Asp Leu
85 90 95
Pro Gly Val Arg Tyr His Ile Val Arg Gly Ala Leu Xaa Cys Ala Ala
100 105 110
Val Lys Asn Arg Lys Gln Ser Arg Ser Arg Tyr Gly Ala Lys Arg Pro
115 120 125
Lys

<210>1041
<211>131
<212>PRT
<213>Chlamydia trachomatis
<400>1041
Leu Leu His Gly Lys Lys Ser Ile Ala Arg Lys Ile Val Tyr Gly Ala
1 5 10 15
Leu Glu Arg Phe Ala Lys Arg Leu Gly Leu Glu Asn Pro Leu Glu Gly
20 25 30
Phe Glu Glu Ala Leu Glu Asn Ala Lys Pro Ile Leu Glu Val Arg Ser
35 40 45
Arg Arg Val Gly Gly Ala Thr Tyr Gln Val Pro Val Glu Val Ala Pro
50 55 60
Asp Arg Arg Ser Cys Leu Ala Met Gln Trp Ile Ile Lys His Ala Arg
65 70 75 80
Ser Lys Pro Gly Lys Cys Met Glu Val Gly Leu Ala Asn Glu Leu Ile
85 90 95
Asp Cys Phe Asn Lys Gln Gly Ala Thr Ile Lys Lys Arg Glu Asp Thr
100 105 110
His Arg Met Ala Glu Ala Asn Lys Ala Phe Ala His Tyr Lys Trp Xaa
115 120 125
Xaa Asn Val

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<213>Chlamydia trachomatis
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20 25 30
Thr Thr Thr Thr Glu Arg Ile Leu Phe Tyr Ala Gly Arg Thr His Lys
35 40 45
Ile Gly Glu Val His Glu Gly Gly Ala Thr Met Asp Trp Met Glu Gln
50 55 60
Glu Gln Glu Arg Gly Ile Thr Ile Thr Ser Ala Ala Thr Thr Val Phe
65 70 75 80
Trp Leu Gly Ala Lys Ile Asn Ile Ile Asp Thr Pro Gly His Val Asp
85 90 95
Phe Thr Ile Glu Val Glu Arg Ser Leu Arg Val Leu Asp Gly Ala Val
100 105 110
Ala Val Phe Asp Ala Val Ser Gly Val Glu Pro Gln Ser Glu Thr Val
115 120 125
Trp Arg Gln Ala Asn Lys Tyr Gly Val Pro Arg Ile Ala Phe Val Asn
130 135 140
Lys Met Asp Arg Met Gly Ala Asn Tyr Xaa Gly Ala Val Glu Ser Met
145 150 155 160
Arg Glu Lys Leu Gly Ala Asn Ala Xaa Pro Val His Cys Pro Ile Gly
165 170 175
Ser Glu Ser Gln Phe Val Gly Met Val Asp Leu Ile Ser Gln Lys Ala
180 185 190
Leu Tyr Phe Leu Glu Glu Thr Leu Gly Ala Lys Trp Glu Glu Arg Lys
195 200 205
Ile Pro Glu Asp Leu Gln Glu Gln Cys Ala Thr Leu Arg Met Gln Leu
210 215 220
Leu Glu Glu Leu Ala Thr Val Asp Glu Ser Asn Glu Ala Phe Met Glu
225 230 235 240
Lys Val Leu Glu Asn Pro Asp Ser Ile Thr Glu Glu Glu Ile His Thr
245 250 255
Val Met Arg Lys Gly Val Ile Glu Gly Lys Ile Asn Pro Val Leu Cys
260 265 270
Gly Ser Ala Phe Lys Asn Lys Gly Val Gln Gln Leu Leu Asp Val Ile
275 280 285
Val Lys Trp Leu Pro Ser Pro Leu Asp Arg Gly Asn Val Arg Gly Ile
290 295 300
Asn Leu Lys Thr Gly Glu Glu Val Ser Leu Lys Pro Ser Lys Asp Gly
305 310 315 320
Pro Leu Ala Ala Leu Ala Phe Lys Ile Met Thr Asp Pro Tyr Val Gly
325 330 335
Arg Ile Thr Phe Ile Arg Ile Tyr Ser Gly Thr Leu Lys Lys Gly Ser
340 345 350
Ala Ile Leu Asn Ser Thr Lys Asp Lys Lys Glu Arg Ile Ser Arg Leu
355 360 365
Leu Glu Met His Ala Asn Glu Arg Thr Asp Arg Asp Glu Phe Thr Val
370 375 380
Gly Asp Ile Gly Ala Cys Val Gly Leu Lys Phe Ser Val Thr Gly Asp
385 390 395 400
Thr Leu Cys Asp Glu Asn Gln Glu Ile Val Leu Glu Arg Ile Glu Ala
405 410 415
Pro Glu Pro Val Ile Asp Met Ala Ile Glu Pro Lys Ser Lys Gly Asp
420 425 430
Arg Glu Lys Leu Ala Gln Ala Leu Ser Ala Leu Ser Glu Glu Asp Pro

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        435                 440                 445
Thr Phe Arg Val Ser Thr Asn Glu Glu Thr Gly Gln Thr Ile Ile Ser
    450                 455                 460
Gly Met Gly Glu Leu His Leu Asp Ile Leu Arg Asp Arg Met Ile Arg
465                 470                 475                 480
Glu Phe Arg Val Glu Ala Asn Val Gly Lys Pro Gln Val Ser Tyr Lys
                485                 490                 495
Glu Thr Ile Thr Lys Thr Ser Asn Ser Glu Thr Lys Tyr Val Lys Gln
            500                 505                 510
Ser Gly Gly Arg Gly Gln Tyr Ala His Val Cys Leu Glu Ile Glu Pro
        515                 520                 525
Asn Glu Pro Gly Lys Gly Asn Glu Val Val Ser Lys Ile Val Gly Gly
    530                 535                 540
Val Ile Pro Lys Glu Tyr Ile Pro Ala Val Ile Lys Gly Val Glu Glu
545                 550                 555                 560
Gly Leu Asn Ser Gly Val Leu Ala Gly Tyr Gly Leu Val Asp Val Lys
                565                 570                 575
Val Ser Ile Val Phe Gly Ser Tyr His Glu Val Asp Ser Ser Glu Met
            580                 585                 590
Ala Phe Lys Ile Cys Gly Ser Met Ala Val Lys Glu Ala Cys Arg Lys
        595                 600                 605
Ala Leu Pro Val Ile Leu Glu Pro Ile Met Lys Val Thr Val Ile Thr
    610                 615                 620
Pro Glu Asp His Leu Gly Asp Val Ile Gly Asp Leu Asn Arg Arg Arg
625                 630                 635                 640
Gly Lys Ile Leu Gly Gln Glu Ser Ser Arg Asn Met Ala Gln Val Ser
                645                 650                 655
Ala Glu Val Pro Leu Ser Glu Met Phe Gly Tyr Met Thr Ser Leu Arg
            660                 665                 670
Ser Leu Thr Ser Gly Arg Ala Thr Ser Thr Met Glu Pro Ala Phe Phe
        675                 680                 685
Ala Lys Val Pro Gln Lys Ile Gln Glu Glu Ile Val Lys Lys
    690                 695                 700
<210>1043
<211>112
<212>PRT
<213>Chlamydia trachomatis
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Leu Leu Arg Ser Lys Glu Tyr Met Lys Gln Gln Lys Gln Arg Ile Arg
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Ile Arg Leu Lys Gly Phe Asp Gln Gly Gln Leu Asp Gln Ser Thr Ala
            20                  25                  30
Asn Ile Val Glu Thr Ala Lys Arg Thr Gly Ala Arg Val Val Gly Pro
        35                  40                  45
Ile Pro Leu Pro Thr Lys Arg Glu Val Tyr Thr Val Leu Arg Ser Pro
    50                  55                  60
His Val Asp Lys Lys Ser Arg Glu Gln Phe Glu Ile Arg Thr His Lys
65                  70                  75                  80
Arg Leu Ile Asp Ile Leu Asp Pro Thr Gly Lys Thr Ile Asp Ala Leu
                85                  90                  95
Lys Met Leu Ser Leu Pro Ala Gly Val Asp Ile Lys Ile Lys Ala Ala
            100                 105                 110
<210>1044
<211>299
<212>PRT
<213>Chlamydia trachomatis
<400>1044
Ile Leu Arg Ser Arg Leu Pro Asn Ser Phe Asp Leu Lys Met Ser Leu
  1               5                  10                  15
Phe Ser Lys Phe Lys Ala Gln Trp Met Phe Leu His Ser Arg Glu Leu
            20                  25                  30
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Cys Ser Ser Thr Ser Asp Ile Gly Asn Thr Cys Ser Asp Pro Val Phe
35 40 45
Gln Ile Leu Cys Asn Pro Val Arg Ser Glu Ile Ser Tyr Lys Val Gly
50 55 60
Asp Ser Leu Gly Val Phe Pro Thr Asn Pro Ser Thr Leu Val Asp Ser
65 70 75 80
Val Leu Asp Ala Leu Gln Tyr Gly Pro Arg Ser Pro Val Val Ser Arg
85 90 95
His Ala Asp Ser Val Leu Pro Leu His Glu Phe Leu Thr Ser Tyr Val
100 105 110
Asp Leu Asp Lys Ile Pro Lys Ser Leu Arg Pro Phe Phe Pro Gly Asp
115 120 125
Leu Asp Asp Thr Trp Ser Leu Ala Glu Ala Ile Leu Val Tyr Gln Pro
130 135 140
Arg Ile Pro Phe Glu Glu Phe Ile Arg Ser Ala Met Pro Leu Leu Pro
145 150 155 160
Arg Phe Tyr Ser Ile Ala Ser Ser Pro Thr Cys Ser His Gly Lys Leu
165 170 175
Glu Leu Leu Val Arg Cys Val Ser Phe Gln Gly Lys Thr Gln Leu Arg
180 185 190
Tyr Gly Leu Cys Ser Ala Phe Leu Cys Lys Asp Leu Gln Glu Gly Glu
195 200 205
Ser Phe Arg Gly Phe Ile Gln Pro Thr Arg His Phe Thr Leu Glu Gln
210 215 220
Lys Asn Phe Gly Lys Pro Leu Ile Met Ile Gly Ala Gly Thr Gly Ile
225 230 235 240
Ala Pro Tyr Lys Gly Phe Leu Gln His Arg Ile Tyr His Gln Asp Val
245 250 255
Gly Ser Asn Ile Leu Phe Phe Gly Glu Arg Phe Glu Lys Ser Asn Phe
260 265 270
Tyr Tyr Arg Ala Phe Ser Pro Gly Ala Asp Arg Phe Arg Lys Thr Pro
275 280 285
Val Ile His Ser Leu Phe Gln Arg Phe Arg Val
290 295

<210>1045
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<212>PRT
<213>Chlamydia trachomatis
<400>1045
Met Thr Glu Ile Pro Ser Ser Phe Val Leu Pro Asp Pro Glu Trp Ile
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Tyr Arg Val Gly Ile Gly Gln Asp Ser His Arg Phe Leu Pro Asp Glu
20 25 30
Asp Pro Lys Pro Cys Ile Leu Gly Gly Ile Ile Phe Glu Asn Thr Pro
35 40 45
Gly Phe Glu Ala Asn Ser Asp Gly Asp Val Val Phe His Ala Ile Cys
50 55 60
Asn Ala Phe Ser Ser Val Thr His Lys Gly Ile Leu Gly Gly Leu Ala
65 70 75 80
Asp Glu Leu Leu Lys Thr Lys Gly Ile Thr Asp Ser Val Val Tyr Leu
85 90 95
Gln Glu Leu Ser Pro Leu
100

<210>1046
<211>507
<212>PRT
<213>Chlamydia trachomatis
<400>1046
Leu Gln Gly Leu Ile Ser Gly Gly Gly Asn Met Ala Ser Leu Leu Asp
1 5 10 15
Arg Tyr Leu Arg Asn Ile Ser Asp Lys Ser Gln Gln Asn Leu Ala Ser

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                20                  25                  30
Val Ala Tyr Leu Ala Ser Leu Asp His Leu Leu His Ala Phe Pro Ser
            35                  40                  45
Ile Gly Gln Ser Ile Val Gln Glu Leu Lys Ser Gln Arg Ser Arg Leu
    50                  55                  60
Lys Met Ile Ala Ser Glu Asn Phe Ser Ser Leu Ser Val Gln Leu Ala
65                  70                  75                  80
Met Gly Asn Leu Leu Thr Asp Lys Tyr Cys Glu Gly Ser Pro Phe Lys
                85                  90                  95
Arg Phe Tyr Ser Cys Cys Glu Asn Val Asp Ala Ile Glu Trp Glu Cys
            100                 105                 110
Ala Glu Thr Ala Lys Glu Leu Phe Gly Ala Glu Ser Ala Phe Val Gln
        115                 120                 125
Pro His Ser Gly Ala Asp Ala Asn Leu Leu Ala Ile Met Ser Ile Ile
    130                 135                 140
Thr Gln Lys Ile Gln Ser Pro Ala Val Gln Gln Leu Gly Tyr Lys Thr
145                 150                 155                 160
Ile Asn Asp Leu Pro Glu Gln Glu Tyr Glu Ala Leu Lys Ala Glu Met
                165                 170                 175
Ala Gln His Lys Cys Leu Gly Pro Ser Leu Asn Ser Gly Gly His Leu
            180                 185                 190
Thr His Gly Thr Val Arg Met Asn Ile Met Ser Lys Leu Met His Cys
        195                 200                 205
Leu Pro Tyr Glu Val Asn Leu Asp Thr Glu Leu Phe Asp Tyr Asp Glu
    210                 215                 220
Ile Ala Lys Xaa Ala Lys Glu His Lys Pro Thr Val Leu Ile Ala Gly
225                 230                 235                 240
Tyr Ser Ser Tyr Ser Arg Arg Phe Asn Phe Ala Thr Leu Lys Gln Ile
                245                 250                 255
Ala Glu Asp Cys Gly Ala Val Leu Trp Val Asp Met Ala His Phe Ala
            260                 265                 270
Gly Leu Val Ala Gly Gly Val Phe Val Gly Glu Glu Asn Pro Met Pro
        275                 280                 285
Tyr Ala Asp Ile Val Thr Thr Thr Thr His Lys Thr Leu Arg Gly Pro
    290                 295                 300
Arg Gly Gly Leu Val Leu Ala Lys Xaa Glu Tyr Ala Asn Thr Leu Asn
305                 310                 315                 320
Lys Ala Cys Leu Xaa Met Met Gly Gly Pro Leu Pro His Val Ile Ala
                325                 330                 335
Ala Lys Ala Ile Ala Leu Lys Glu Ala Met Thr Ile Asn Phe Arg Lys
            340                 345                 350
Tyr Ala His Lys Val Val Glu Asn Ala Gln Thr Leu Ala Glu Val Phe
        355                 360                 365
Gln Arg Asn Gly Leu Arg Leu Leu Thr Gly Gly Thr Asp Asn His Met
    370                 375                 380
Leu Ile Ile Asp Leu Thr Ser Leu Gly Val Pro Gly Arg Ile Ala Glu
385                 390                 395                 400
Asp Met Leu Thr Ser Val Gly Ile Ala Val Asn Arg Asn Thr Ile Pro
                405                 410                 415
Ser Asp Ala Ser Gly Gln Trp Lys Thr Ser Gly Ile Arg Leu Gly Thr
            420                 425                 430
Pro Ala Leu Thr Thr Leu Gly Met Gly Ser Ala Glu Met Glu Glu Val
        435                 440                 445
Ala Asn Ile Ile Val Lys Val Leu Arg Asn Ile Thr Val Arg Ser Asn
    450                 455                 460
Ala Glu Ser Gly Ser Ser Lys Ser Glu Gly Glu Leu Ser Glu Gly Ile
465                 470                 475                 480
Ala Gln Glu Ala Arg Gln Arg Val Ala Asp Leu Leu Gly Arg Phe Pro
                485                 490                 495
Leu Tyr Pro Glu Ile Asp Leu Glu Thr Leu Val
            500                 505
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<210>1047
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<212>PRT
<213>Chlamydia trachomatis
<400>1047

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            20                  25                  30
Ile Ile Leu Ile Trp Ser Gln Thr Ala Lys Leu Ala Ser Thr Asp Pro
        35                  40                  45
Pro Gly Leu Leu Met Thr Asn Thr Ile Gly Cys Pro Gly Leu Val Ser
    50                  55                  60
Ser Lys Tyr Gln Ser Phe Leu Met Ala Ser Ala Ala Leu Phe Ser Val
65                  70                  75                  80
Thr Gly Ser Glu Lys Lys Ile Arg Arg Glu Ser Asn Asn Phe Leu Ser
                85                  90                  95
Met Thr Ser Cys Asn Leu Cys Ile Ile Ser Pro Ser Gly Ile Glu Ser
            100                 105                 110
Pro Thr Lys Leu Ala Phe Pro Asp Arg Phe Gln Asp Lys Glu Gly Ile
        115                 120                 125
Phe Leu Ile Asn Gln Pro His Val Val Ser Leu Pro Glu Arg Ser Leu
    130                 135                 140
Leu Thr Ala Leu Pro His Phe Tyr
145                 150
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<210>1048
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<212>PRT
<213>Chlamydia trachomatis
<400>1048

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Gly Asn Ala Ser Leu Val Gly Asp Ser Met Pro Glu Gly Glu Met Met
  1               5                  10                  15
His Lys Leu Gln Asp Val Ile Asp Arg Lys Leu Leu Asp Ser Arg Arg
            20                  25                  30
Ile Phe Phe Ser Glu Pro Val Thr Glu Lys Ser Ala Ala Glu Ala Ile
        35                  40                  45
Lys Lys Leu Trp Tyr Leu Glu Leu Thr Asn Pro Gly Gln Pro Ile Val
    50                  55                  60
Phe Val Ile Asn Ser Pro Gly Gly Ser Val Asp Ala Ser Phe Ala Val
65                  70                  75                  80
Trp Asp Gln Ile Lys Met Ile Ser Ser Pro Leu Thr Thr Val Val Thr
                85                  90                  95
Gly Leu Ala Ala Ser Thr Gly Ser Val Leu Ser Leu Cys Ala Val Pro
            100                 105                 110
Gly Arg Arg Phe Ala Thr Pro His Ala Arg Ile Met Ile Thr Lys Pro
        115                 120                 125
Ser Ile Gly Gly Thr Ile Thr Gly Gln Ala Thr Asp Leu Asp Ile His
    130                 135                 140
Ala Arg Glu Xaa Leu Lys Thr Lys Ala Arg Ile Ile Asp Val Tyr Val
145                 150                 155                 160
Glu Ala Thr Gly Gln Ser Pro Glu Val Ile Glu Lys Ala Ile Asp Arg
                165                 170                 175
Asp Met Trp Met Ser Ala Asn Glu Ala Met Glu Phe Gly Leu Leu Asp
            180                 185                 190
Gly Ile Ser Leu Leu Phe
        195
```

<210>1049
<211>90
<212>PRT
<213>Chlamydia trachomatis
<400>1049

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```
Ser Asn Gly Val Trp Thr Val Arg Trp Asp Phe Ser Ser Leu Leu Thr
 1               5                  10                  15
Thr Cys Arg Tyr Leu Leu Tyr Ser Gly Ala Gly Asn Ser Phe Ile Leu
            20                  25                  30
Gly Glu Ser Met Pro Ser Leu Glu Asp Val Leu Phe Leu Cys Gln Glu
        35                  40                  45
Glu Met Val Asp Gly Phe Leu Cys Val Glu Ser Ser Glu Ile Ala Asp
    50                  55                  60
Ala Lys Leu Thr Val Phe Asn Ser Asp Gly Ser Ile Ala Ser Met Cys
65                  70                  75                  80
Gly Asn Gly Leu Gln Ser Gln Trp Arg Thr
                85                  90
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<210>1050
<211>210
<212>PRT
<213>Chlamydia trachomatis
<400>1050

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Trp Ile Tyr Arg Val Tyr Val Arg Glu Trp Val Ala Val Ala Met Ala
 1               5                  10                  15
His Val Ala Gln Cys Phe Gly Leu Glu Asp Val Ser Ile Glu Thr Glu
            20                  25                  30
Arg Gly Val Tyr Gln Gly Lys Phe Phe Ser Met Asn Arg Val Leu Val
        35                  40                  45
Asp Met Thr Leu Pro Asp Trp Lys Lys Ala Glu Arg Lys Leu Thr His
    50                  55                  60
Val Leu Pro Gly Met Pro Glu Gln Val Phe Phe Ile Asp Thr Gly Val
65                  70                  75                  80
Pro His Val Val Val Phe Val Ser Asp Leu Ser Lys Val Pro Val Gln
                85                  90                  95
Glu Trp Gly Ser Phe Leu Arg Tyr His Glu Asp Phe Ala Pro Glu Gly
            100                 105                 110
Val Asn Val Asp Phe Val Gln Arg Lys Lys Asp Asp Leu Leu Leu Val
        115                 120                 125
Tyr Thr Tyr Glu Arg Gly Cys Glu Arg Glu Thr Leu Ser Cys Gly Thr
    130                 135                 140
Gly Met Leu Ala Ser Ala Leu Val Ala Ala Asp Ile Phe Ser Leu Gly
145                 150                 155                 160
Gln Asp Phe Ser Ile Ala Val Cys Ser Arg Ser Arg Asn Leu Ile Lys
                165                 170                 175
Ile Phe Ser Glu Lys Gly Lys Val Phe Leu Glu Gly Pro Val Ser Leu
            180                 185                 190
Leu Asn Arg Ser Glu Asn Phe Gly Trp Leu Glu Pro Lys Ser Arg Arg
        195                 200                 205
Phe Gly
    210
```

<210>1051
<211>200
<212>PRT
<213>Chlamydia trachomatis
<400>1051

```
His Lys Arg Glu Leu Leu Ser Asn Arg Ala Ser Pro Ile Leu Glu Pro
 1               5                  10                  15
Met Thr Thr Tyr Pro Val Pro Gln Asn Pro Leu Leu Leu Arg Val Leu
            20                  25                  30
Arg Leu Met Asp Ala Phe Ser Lys Ser Asp Asp Glu Arg Asp Phe Tyr
        35                  40                  45
Leu Asp Arg Val Xaa Gly Phe Ile Leu Tyr Ile Asp Leu Asp Lys Asp
    50                  55                  60
Gln Glu Asp Leu Asp Lys Ile Tyr Gln Glu Leu Glu Glu Asn Ala Asp
65                  70                  75                  80
Arg Tyr Cys Leu Ile Pro Lys Leu Thr Phe Tyr Glu Ile Lys Lys Ile
```

```
                85                  90                  95
Met Glu Thr Phe Val Asn Glu Lys Ile Tyr Asp Ile Asp Thr Lys Glu
            100                 105                 110
Lys Phe Leu Glu Ile Val Gln Ser Lys Asn Ala Arg Glu Gln Phe Gln
        115                 120                 125
Glu Phe Leu Tyr Asp His Glu Thr Glu Gln Glu Lys Trp Gln Gln Phe
    130                 135                 140
Tyr Val Glu Arg Ser Arg Ile Arg Ile Ile Glu Trp Leu Arg Asn Asn
145                 150                 155                 160
Gln Phe Gln Phe Val Phe Glu Glu Asp Leu Asp Phe Ser Lys His Ile
                165                 170                 175
Leu Glu Gln Leu Lys Val His Leu Phe Asp Ala Lys Val Ser Lys Glu
            180                 185                 190
Leu Thr Gln Ala Arg His Phe Phe
        195                 200
<210>1052
<211>171
<212>PRT
<213>Chlamydia trachomatis
<400>1052
Ala His Phe Arg Thr Thr Glu Gly Thr Ser Ile Arg Cys Gln Gly Ile
  1               5                  10                  15
Glu Arg Val Asn Thr Gly Ala Ser Leu Leu Leu Asn Lys Ser Lys Val
            20                  25                  30
Tyr Tyr Ser Asn Glu Ala Leu Asn Pro Arg Pro Lys Arg Gly Arg Pro
        35                  40                  45
Pro Lys Gln Ser Ala Lys Val Glu Ala Glu Thr Thr Ile Ser Asn Asp
    50                  55                  60
Ile Tyr Thr Lys Val Pro Ser Ala Ala Arg Arg Phe Leu Phe Leu Pro
65                  70                  75                  80
Glu Ile Thr Ser Pro Ser Ser Leu Thr Phe Ser Glu Lys Phe Asp Thr
                85                  90                  95
Glu Glu Glu Phe Leu Ala His Leu Arg Gly Gly Gly Arg Leu Glu Asp
            100                 105                 110
Gln Leu Asn Leu Ala Lys Phe Ser Glu Arg Phe Asp Ser Leu Arg Glu
        115                 120                 125
Leu Ser Ala Lys Leu Gly Tyr Asp Ser Asp Gly Glu Thr Gly Asp Phe
    130                 135                 140
Phe Asn Glu Glu Tyr Asp Asp Glu Glu Glu Glu Ile Lys Pro Lys Lys
145                 150                 155                 160
Thr Thr Lys Arg Gly Arg Lys Lys Ser Arg Ser
                165                 170
<210>1053
<211>232
<212>PRT
<213>Chlamydia trachomatis
<400>1053
Asn Ser Leu Glu Thr Ile Met Thr Asp Phe His Asp Lys Pro Asn Ile
  1               5                  10                  15
Gln Ile Met Phe Asp Ser Leu Ala Pro Thr Tyr Asp Lys Ile Asn Gly
            20                  25                  30
Ile Leu Ser Leu Gly Leu His Ile Ala Trp Asn Asn Ala Leu Val Ser
        35                  40                  45
Leu Leu Gly Glu Thr Asn His Leu Leu Asp Leu Cys Ala Gly Thr Gly
    50                  55                  60
Arg Val Ala Leu Ser Tyr Val Gln Asn Tyr Pro Arg Ala Ser Ala Thr
65                  70                  75                  80
Leu Val Asp Phe Ser Thr Lys Met Leu Glu Asn Val Gln Lys Arg His
                85                  90                  95
Pro Ser Ala Pro Phe Ser Tyr Ile Thr Ser Asp Val Thr His Leu Pro
            100                 105                 110
```

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Leu Pro Asp Asn Thr Phe Arg Leu Ala Ser Met Ala Tyr Gly Leu Arg
115 120 125
Asn Leu Ser Tyr Pro Leu Glu Ala Leu Arg Glu Val Tyr Arg Val Leu
130 135 140
Gln Pro Gly Gly His Leu Gly Ile Leu Glu Leu Thr Arg Pro Ala Thr
145 150 155 160
Tyr Asn Pro Val Tyr Leu Leu His Lys Leu Tyr Leu Asn Leu Val Val
165 170 175
Pro Ser Val Gly Arg Phe Tyr Ser Gly Asn Ser Tyr Ala Tyr Ser Tyr
180 185 190
Leu Lys Glu Ser Ile Arg Asp Leu Pro Arg Met Pro Leu Ser Lys Gln
195 200 205
Ser Phe Met Gln Arg Ile Tyr Ala Leu Ser Gly Asn Ala Asn Tyr Phe
210 215 220
Leu Ala Gln Gln Pro Phe Gly Phe
225 230

<210>1054
<211>286
<212>PRT
<213>Chlamydia trachomatis
<400>1054
Arg Asp Val Pro Ser His Asn Thr Thr Trp Ser Tyr Pro Met Leu Ser
1 5 10 15
Gln Phe Gln Asp Arg Leu Asn Ile Gly Cys Val Arg Tyr Val Asn Ala
20 25 30
Leu Pro Phe Ser Ser Gly Leu Ser Gln Ala Pro Gly Val Ser Leu Leu
35 40 45
Met Asp Thr Pro Thr Asn Leu Val Pro Lys Leu Leu Ser Arg Glu Ile
50 55 60
Asp Tyr Ala Leu Thr Ser Val Ala Ala Thr Phe Ser Ser Ser Leu His
65 70 75 80
Arg Val Ser Ser Phe Gly Ile Ala Ala Tyr Lys Lys Ile Leu Ser Val
85 90 95
Asn Leu His Ala Thr Ser Gln Phe Phe Ala Lys Glu Ala Pro His Ile
100 105 110
Ala Ala Thr Lys Glu Ser Leu Ser Ser Ile Leu Leu Leu Arg Val Leu
115 120 125
Cys Glu Asn Leu Trp Asn Ile Pro Phe Pro Ser Val Thr Leu Leu Ser
130 135 140
Ser Asp Ser Ile Leu Thr Gln Ala Glu His Tyr Asp Ala Leu Leu Leu
145 150 155 160
Ile Gly Asp Thr Ala Leu Arg His Pro Ile Ile Pro Gly Phe His Thr
165 170 175
Tyr Asp Leu Ala Ala Ser Trp Tyr Asp Leu Thr Ala Lys Pro Phe Val
180 185 190
Phe Ala Gly Ile Leu Ser Leu Ser Ser Thr Ile Ser Phe Gln Leu Gln
195 200 205
Gln Glu Phe Ser Ser Thr Leu Asn Tyr Phe Gln Asn His Lys Glu Asp
210 215 220
Ile Thr Ser Lys Ala Ala Ala Leu Leu Lys Leu Pro Glu Ser Leu Met
225 230 235 240
Gln Glu Tyr Tyr Thr Leu Cys Arg Tyr Glu Leu Ser Glu Glu Asp Phe
245 250 255
Ala Gly Leu Glu Gln Phe Arg Asp Tyr Tyr Asp Arg Leu Pro Arg Gln
260 265 270
Ala Lys Tyr Pro Asn His Val Arg Phe Ser Cys Ala Tyr Leu
275 280 285

<210>1055
<211>394
<212>PRT
<213>Chlamydia trachomatis

<400>1055
Val Ala Ala Ala Thr Ala Val Arg Lys Arg Ser Leu Val Pro Val Lys
1 5 10 15
Ser Lys Thr His Lys Leu Ile Thr Thr Met Thr Thr Leu Pro Ala Arg
20 25 30
Ile Leu Pro Lys Ser Ala Trp Leu Lys Thr Leu Phe Asp Asp Tyr Leu
35 40 45
Ser Gly Ala Arg Leu Ser Glu Lys Gln Ala Leu Gln Leu Leu Leu Val
50 55 60
Asp Ala Glu Asp Gln Gln Ala Leu Trp Ser Phe Ala Asp Leu Ile Arg
65 70 75 80
Ala Asn Arg Val Gly Asp Thr Val Phe Tyr Ser Ser Thr Leu Tyr Leu
85 90 95
Tyr Pro Thr Asn Phe Cys Gln Phe Asn Cys Thr Phe Cys Ser Phe Tyr
100 105 110
Ala Lys Pro Gly Asn Pro Thr Gly Trp Phe Phe Thr Pro Asp Gln Leu
115 120 125
Val Gln Ser Ile Lys Glu Asn Pro Ser Pro Ile Thr Glu Thr His Ile
130 135 140
Val Ala Gly Cys Tyr Pro Ser Cys Asn Leu Ala Tyr Tyr Glu Glu Leu
145 150 155 160
Phe Ser Lys Ile Lys Gln Asn Phe Pro Asp Leu His Ile Lys Ala Leu
165 170 175
Ser Ala Ile Glu Tyr Asp Tyr Leu Ser Lys Leu Asp Asn Leu Pro Val
180 185 190
Lys Glu Val Met Gln Arg Leu Arg Ile Ala Gly Leu Asp Ser Ile Pro
195 200 205
Gly Gly Gly Ala Glu Ile Leu Val Asp Glu Val Arg Glu Thr Leu Ser
210 215 220
Arg Gly Arg Leu Ser Ser Gln Gly Phe Leu Glu Ile His Glu Thr Ala
225 230 235 240
His Ser Leu Gly Ile Pro Ser Asn Ala Thr Met Leu Cys Tyr His Arg
245 250 255
Glu Thr Pro Ala Asp Ile Met Thr His Met Ser Lys Leu Arg Ala Leu
260 265 270
Gln Asp Lys Thr Ser Gly Phe Lys Asn Phe Ile Leu Leu Lys Phe Ala
275 280 285
Ser Glu Asn Asn Ala Leu Gly Lys Arg Leu His Lys Met Thr Ser Arg
290 295 300
His Ser Ile Pro Pro Ala Thr Ile Ile Ala Val Ala Arg Leu Phe Leu
305 310 315 320
Asp Asn Ile Pro Asn Ile Lys Ala Leu Trp Asn Tyr Leu Gly Leu Asp
325 330 335
Val Ala Leu His Leu Leu Ser Cys Gly Xaa Asn Asp Leu Ser Ser Thr
340 345 350
His Gln Gly Glu Lys Val Phe Arg Met Ala Ser Ser Gln Glu Pro Ile
355 360 365
Arg Met Asp Ile Glu Gly Met Ser His Leu Ile Ile Gln His Gly Arg
370 375 380
Ile Pro Cys Leu Val Asn Ser Lys Thr Val
385 390
<210>1056
<211>174
<212>PRT
<213>Chlamydia trachomatis
<400>1056
Arg Glu Thr Cys Val Phe Gly Phe Val Ala Gly Gly Leu Asp Asp Arg
1 5 10 15
Asn Leu Tyr Asn His Phe Phe Asp Ser Asp Gln Gln Gln Tyr Ser Pro
20 25 30
Gly Leu Thr Ala Val Ile Cys Asn Lys Tyr Ser Arg Asp Ser Leu Leu

```
         35                  40                  45
Glu Ala Leu Tyr Gln Arg Gln Cys Tyr Ala Thr Thr Gly Gln Arg Ile
     50                  55                  60
Ile Val Asn Phe Gln Ile Thr Ser Ala Pro Met Gly Ser Glu Leu Ser
 65                  70                  75                  80
Thr Ala Ile Lys Pro Gly Leu Val Ile Asn Arg His Ile Ser Gly Tyr
                 85                  90                  95
Val Ala Gly Thr Ala Lys Ile Ala Ser Ile Glu Ile Ile Arg Asn Gly
            100                 105                 110
Asp Ile Leu His Pro Phe His Pro Asp Gly Asn Asn Phe Glu Tyr Glu
        115                 120                 125
Tyr Asp Asp Leu Ser Pro Phe Ala Gln Val Thr Leu Lys Asp Pro Gln
    130                 135                 140
Asn Gly Ala Pro Phe Ala Phe Tyr Tyr Leu Arg Val Thr Gln Glu Asn
145                 150                 155                 160
Gly Ala Met Ala Leu Ser Ser Pro Xaa Trp Ile Asp Leu Asn
                165                 170
```

<210>1057
<211>332
<212>PRT
<213>Chlamydia trachomatis
<400>1057

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Lys Arg Leu Pro Arg Ile Leu Trp Leu Gln Lys Leu Cys Met Leu Pro
  1               5                  10                  15
Glu Ala Ile Ser Leu Leu Ser Asn Leu Leu Ser Leu Val Met Trp Lys
            20                  25                  30
Leu Gly Thr Leu Ser Leu Leu Phe Leu Ala Pro Leu Pro Thr Ser Leu
        35                  40                  45
Lys Arg Thr Leu Gln Val Met Val Leu Asn Tyr Leu Leu Asn Ala Val
    50                  55                  60
Asn Leu Ser Leu Phe Met Leu Thr His Gln Gly Lys Asp Leu Leu Lys
65                  70                  75                  80
Asp Pro Asp Ile Phe Thr Met Asp Ile Arg Gly Asn Val Leu Lys Asn
                85                  90                  95
Ile Arg Ile Phe Ala Pro Ser Tyr Val Ile Lys Asn Lys Arg Phe Asp
            100                 105                 110
Ile Thr Val Arg Phe Glu Asp Glu Phe Gly Asn Leu Thr Asn Phe Ser
        115                 120                 125
Pro Glu Glu Thr His Ile Glu Leu Ser Tyr Glu His Leu Arg Glu Asn
    130                 135                 140
Leu Asn Trp Gln Leu Phe Ile Pro Glu Thr Gly Phe Val Ile Leu Pro
145                 150                 155                 160
Asn Leu Tyr Phe Asn Glu Pro Gly Ile Tyr Arg Ile Gln Leu Arg Asn
                165                 170                 175
Gln Ala Thr Lys Glu Val Phe Thr Ser Ala Pro Ile Lys Cys Phe Ala
            180                 185                 190
Glu Thr Ser Ser His Leu Leu Trp Gly Leu Leu His Gly Glu Ser Asp
        195                 200                 205
Arg Val Asp Ser Glu Gly Asn Ile Glu Ser Cys Leu Arg Tyr Phe Arg
    210                 215                 220
Asp Asp Cys Ala Leu Asn Phe Phe Ala Thr Ser Ser Phe Glu Ile Gln
225                 230                 235                 240
Asp Gly Leu Thr Pro Glu Thr Ile Lys Thr Ile Asn Gln Thr Val Ala
                245                 250                 255
Asp Phe Asn Glu Glu Asp Arg Phe Ile Ala Leu Ser Gly Ala Gln Tyr
            260                 265                 270
Leu Ser Glu Glu Pro Gly Glu Gly Ile Arg Glu Val Leu Leu Met Lys
        275                 280                 285
Glu Pro Lys Ser Pro Gly Lys His Lys Glu Cys Lys Leu Phe Pro Leu
    290                 295                 300
Ser Lys Leu Tyr Lys Gln Ser Thr Ser His Glu Leu Ile Ser Ile Pro
```

305 310 315 320
Gln Leu His Cys Phe Lys Glu Ile Trp Ile Gln Phe
325 330

<210>1058
<211>204
<212>PRT
<213>Chlamydia trachomatis
<400>1058
Arg Ser Ser Val Lys His Ala Lys Ala Lys Phe Leu Gln Ile Lys Asp
1 5 10 15
Phe Leu Val Thr Arg Thr Tyr Ile Leu Val Ala Met Arg Arg Ser Val
20 25 30
Cys Tyr Val Thr Pro Ser Val Ala Arg Ala Gly Gln Ile Ser Thr Trp
35 40 45
Arg Phe Glu Tyr Ser Ser Ala Asn Phe Leu Pro Glu Gly Thr Leu Leu
50 55 60
Lys Phe Asp Leu Gly Ile Asp Gly Arg Pro Ile Asp Trp Glu Ile Pro
65 70 75 80
Ser Ile Asp Leu Ser Gln Pro Cys Asn Thr Ile Tyr Leu Glu Thr Pro
85 90 95
Ser Glu Asp Ile Val Ala Ala Lys Ala Val Tyr Ala Pro Gly Gly Tyr
100 105 110
Ile Pro Thr Phe Glu Phe Thr Leu Pro Cys Asp Val Glu Ala Gly Asp
115 120 125
Thr Phe Ser Ile Ile Leu Gly Ser Ser Pro Asn Phe Pro Gln Glu Asp
130 135 140
Ser Ser Gly Asn Gly Ala Gln Leu Phe Thr Gln Arg Arg Lys Pro Phe
145 150 155 160
Ser Leu Tyr Val Asp Pro Ser Gly Lys Gly Ser Phe Glu Arg Ser Arg
165 170 175
Tyr Leu His Asn Gly Tyr Gln Arg Lys Cys Ile Lys Lys Tyr Pro Asp
180 185 190
Phe Cys Ser Phe Leu Cys Asp Gln Lys Gln Thr Leu
195 200

<210>1059
<211>123
<212>PRT
<213>Chlamydia trachomatis
<400>1059
Arg Leu Ser Leu Met Asn Thr Asp Leu Gln Lys Ala Phe Val Ser Met
1 5 10 15
Glu Asp Ile Val Glu Glu Ile Phe Gly Glu Ile Ala Asp Glu Tyr Asp
20 25 30
Asp Gln Glu Asp Val His Tyr Lys Xaa Ile Gly Asn Ala Trp Ile Val
35 40 45
Asp Gly Arg Met Asn Ile Ser Asp Ala Glu Glu Cys Phe Gly Leu His
50 55 60
Ile Glu His Glu Ser Ser Tyr Asp Thr Leu Gly Gly Tyr Val Phe His
65 70 75 80
Lys Leu Gly Ala Val Pro Glu Lys Gly Met Lys Ile Tyr Tyr Glu Asp
85 90 95
Phe Ala Ile Asp Ile Leu Ser Cys Ser Asp Arg Ser Val Glu Lys Met
100 105 110
Lys Ile Thr Pro Arg Arg Arg Lys Pro Leu Ser
115 120

<210>1060
<211>298
<212>PRT
<213>Chlamydia trachomatis
<400>1060
Ala Ser Ser Leu Phe Val Asp Ser Pro Asn Asn Phe Phe Tyr Arg Ser

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  1               5                  10                  15
Trp Leu Phe Ser Pro Leu Ile Met Leu Tyr Ile Leu Leu Ala Ile Ile
            20                  25                  30
Val Leu Phe Leu Phe Leu Gly Ser Ala Thr His Arg Arg Ala Ser Ile
        35                  40                  45
Ser Ala Tyr Gly Gly Glu Gly Leu Pro Pro Phe Ser Ser Cys Pro Lys
    50                  55                  60
Val Leu Pro Leu Leu Cys Leu Ile Tyr Gly Met Leu Gly Ala Pro Val
65                  70                  75                  80
Tyr Gln Tyr Ile His Asn Phe Phe Ser Leu Ser Pro Ser Ile Phe Trp
                85                  90                  95
Leu Ile Phe Leu Ser Leu Ala Leu Val Ile Tyr Lys Phe Leu Pro Leu
            100                 105                 110
Cys Pro Gly Tyr Ser Asp Asp Ser Phe Ser Tyr Lys Val Ser Ser Ser
        115                 120                 125
Thr Val Lys Thr Leu Glu Asn Cys Leu Ala Gly Phe Lys Thr Pro Ser
    130                 135                 140
Ile Thr Ala Met Gln Gln Thr Pro Pro Pro Glu Pro Pro Asn Glu Leu
145                 150                 155                 160
Ser Thr Asn Ile Ser Cys Leu Asn His Met Ile Ala Arg Glu Ile Met
                165                 170                 175
Thr Pro Lys Ala Asp Ile Phe Ala Leu Gln Gly Asp Thr Pro Ile Ser
            180                 185                 190
Gln Ala Phe Pro Leu Ile Ile Asp Glu Gly Tyr Ser Arg Ile Pro Leu
        195                 200                 205
Phe Thr Lys Ser Ile Asp Asp Ile Thr Gly Met Val Leu Val Lys Asp
    210                 215                 220
Leu Ser Pro Val Tyr Tyr Lys Asp Pro His Thr Ser Gln Pro Leu Ser
225                 230                 235                 240
Ser Ile Ala Tyr Pro Pro Leu Tyr Thr Pro Glu Ile Arg Arg Ala Ser
                245                 250                 255
Leu Leu Leu Gln Glu Phe Xaa Gln Lys Arg Cys His Leu Ala Ile Val
            260                 265                 270
Val Asn Glu Tyr Gly Phe Thr Glu Gly Leu Cys Leu Tyr Gly Arg Tyr
        275                 280                 285
Arg Arg Arg Asn Leu Trp Arg Asn Cys Arg
    290                 295
<210>1061
<211>165
<212>PRT
<213>Chlamydia trachomatis
<400>1061
Val Ile Phe Phe Leu Leu Ile Leu Asp Arg Ser Ser Pro Gln Ile Phe
  1               5                  10                  15
Ile Ser Asn Glu Gln Gln Asp Val Ser Ile Asp Leu Gln Ser Ala Gln
            20                  25                  30
Arg Leu Val Val Leu Phe Leu Glu Leu Gln Lys Val Ser Thr Asp Gln
        35                  40                  45
Val Tyr Val Tyr Phe Leu Asp Asp Thr Ala Leu Ala Gln Leu His Asp
    50                  55                  60
Glu Gln Phe Ser Asp Pro Ser Leu Thr Asp Thr Ile Thr Leu Pro Ile
65                  70                  75                  80
Asp Lys Pro Gly Ile Ala Ser Phe Pro His Val Leu Gly Glu Ala Phe
                85                  90                  95
Val Ser Pro Lys Ala Ala Met Arg Phe Leu Glu Gln Tyr Thr Glu Asp
            100                 105                 110
Gln Leu Tyr His Glu Ile Ser Arg Tyr Val Val His Ser Leu Leu His
        115                 120                 125
Met Leu Gly Tyr Asp Asp Gln Thr Asp Glu Asp Lys Arg Ile Met Gln
    130                 135                 140
Glu Gln Glu Asp Val Ser Leu Ser Phe Leu Ala Glu His Gln Ala Leu
```

145 150 155 160
Leu Arg Pro Ala Val
165

<210>1062
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>1062
Gln Gln Ser Leu Gly Leu Asn Gln Asp Pro Leu Asn Lys Val Val Met
1 5 10 15
Val Pro Phe Pro Asn Arg Glu Val Leu Cys Ile Gly Leu Val Ala Gly
20 25 30
Glu Ala Pro Thr Thr Cys Ser Gln Asp Ala Asp Asp Pro Met Ile Thr
35 40 45
Val Phe Ile Pro Thr Thr Pro Asn Pro Thr Ser Gly Phe Leu Thr Leu
50 55 60
Phe Lys Lys Ser Asp Ile Thr Phe Leu Asp Met Lys Ile Glu Asp Ala
65 70 75 80
Phe Lys Tyr Val Ile Ser Cys Gly Val Leu Asn Ser Asp Pro Cys Ala
85 90 95
Thr Ser Pro Phe Ile His Pro Gln Phe
100 105

<210>1063
<211>108
<212>PRT
<213>Chlamydia trachomatis
<400>1063
Leu Met Glu Pro Tyr Ala Val Ile Gln Thr Gly Asn Lys Gln Tyr Gln
1 5 10 15
Val Arg Lys Gly Asp Val Ile Asp Val Glu Leu Leu Asp Gly Ile Ser
20 25 30
Glu Glu Asn Lys Glu Val Leu Phe Gln Asp Val Leu Phe Thr Phe Asp
35 40 45
Gly Glu Lys Ala Ser Val Gly Ala Pro Thr Val Gly Asn Ala Val Val
50 55 60
Lys Gly Glu Leu Val Ser Phe Val Arg Gly Glu Lys Val Val Ala Tyr
65 70 75 80
Lys Tyr Lys Lys Arg Lys Asn Tyr His Lys Lys Ile Gly His Arg Gln
85 90 95
Asn Tyr Leu Arg Val Lys Ile Ser Asp Leu Val Met
100 105

<210>1064
<211>83
<212>PRT
<213>Chlamydia trachomatis
<400>1064
Met Ala His Lys Lys Gly Gln Gly Ala Ser Arg Asn Gly Arg Asp Ser
1 5 10 15
Glu Ser Lys Arg Leu Gly Leu Lys Val Gly Ala Gly Gln Arg Val Ser
20 25 30
Thr Gly Ser Ile Leu Val Arg Gln Arg Gly Thr Lys Trp His Pro Ala
35 40 45
Val Asn Val Gly Arg Gly Lys Asp Asp Thr Leu Phe Ala Leu Ala Asp
50 55 60
Gly Ile Val Val Met Lys Lys Thr Asp Arg Thr Tyr Val Ser Val Ile
65 70 75 80
Pro Gln Ala

<210>1065
<211>267
<212>PRT

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<213>Chlamydia trachomatis
<400>1065
Leu Phe Lys Leu Cys Phe Cys Leu Arg Val Lys Ile Gly Leu Phe Leu
1 5 10 15
Phe Val Pro Gly Arg Val Met Phe Val Asp Gln Ile Thr Leu Glu Leu
20 25 30
Arg Ala Gly Lys Gly Gly Asn Gly Val Val Ala Trp Arg Lys Glu Lys
35 40 45
Tyr Leu Pro Lys Gly Gly Pro Tyr Gly Gly Asn Gly Gly Asn Gly Gly
50 55 60
Ser Ile Leu Ile Glu Thr Val Thr Asn Met Tyr Ser Phe Glu Glu Tyr
65 70 75 80
Arg Asn Leu Arg Phe Leu Lys Ala Asp Asp Gly Gln Ala Gly Ala Ser
85 90 95
Asn Asn Arg Thr Gly Arg Asn Gly Lys Asp Leu Val Leu Lys Val Pro
100 105 110
Glu Gly Thr Leu Leu Arg Asp Ala Ala Thr Gly Glu Leu Ile His Asp
115 120 125
Phe Thr Lys Asp Gly Glu Arg Ile Val Val Cys Gln Gly Gly Arg Gly
130 135 140
Gly Lys Gly Asn Val Phe Phe Lys Thr Ser Thr Asn Arg Ala Pro Thr
145 150 155 160
Lys Ala Thr Pro Gly Lys Pro Gly Glu Ile Arg Leu Val Glu Leu Glu
165 170 175
Leu Lys Leu Ile Ala Asp Ile Gly Leu Val Gly Phe Pro Asn Ala Gly
180 185 190
Lys Ser Thr Leu Phe Asn Thr Leu Ala Arg Thr Glu Val Lys Val Gly
195 200 205
Ala Tyr Pro Phe Thr Thr Leu His Pro Ser Leu Gly Leu Val His Gln
210 215 220
Glu Gly Met Leu Tyr Gln Lys Thr Trp Ile Met Ala Asp Ile Pro Gly
225 230 235 240
Ile Ile Glu Gly Ala Ser Gln Asn Arg Gly Leu Gly Leu Asp Phe Phe
245 250 255
Gly Ile Leu Asn Val Arg Asp Tyr Cys Tyr Ser
260 265

<210>1066
<211>114
<212>PRT
<213>Chlamydia trachomatis
<400>1066
Arg Ser Val Ala Lys Pro Gly Ile Gly Ile Gly Phe Leu Arg His Ile
1 5 10 15
Glu Arg Thr Arg Leu Leu Leu Phe Val Ile Asp Ile Ser Gly Ile Glu
20 25 30
Arg His Ser Pro Glu Gln Asp Leu Lys Ile Leu Met Gly Glu Leu Leu
35 40 45
Ala Tyr Lys Glu Glu Leu Lys Asp Lys Asp Met Val Ile Ala Leu Asn
50 55 60
Lys Ile Asp Gln Leu Leu Pro Asp Glu Arg Glu Glu Arg Val Ala Leu
65 70 75 80
Leu Lys Gln Gln Phe Pro Asp Gln Glu Phe Ile Leu Leu Ser Gly Leu
85 90 95
Thr Gly Glu Gly Val Asp Ala Leu Tyr Asp Leu Phe Lys Ser Lys Leu
100 105 110
Ser Glu

<210>1067
<211>305
<212>PRT
<213>Chlamydia trachomatis

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<400>1067
Asn Phe Arg Lys Ile Leu Leu Gln His Phe Trp Glu Met Pro Met Ile
1 5 10 15
Ser Ile Leu Cys Ser Leu Phe Pro Pro Leu Leu Phe Pro Ser Leu Leu
20 25 30
Ala Ala Phe Gly Ala Ser Ile Ala Ala Gly Ile Val Gly Ser Tyr Ile
35 40 45
Val Val Lys Arg Ile Val Ser Ile Ser Gly Ser Ile Ala His Ser Ile
50 55 60
Leu Gly Gly Val Gly Ile Ala Leu Trp Leu Gln Tyr Gln Phe Asn Leu
65 70 75 80
Pro Ile Ser Pro Leu His Gly Ala Ile Ala Ser Ala Ile Phe Val Ala
85 90 95
Ile Cys Ile Gly Asn Val His Leu Lys Tyr His Glu Arg Glu Asp Ser
100 105 110
Ile Ile Ser Met Ile Trp Ser Ile Gly Met Ala Ile Gly Ile Ile Cys
115 120 125
Ile Ser Lys Leu Pro Ser Phe Asn Ser Glu Leu Ser Asp Phe Leu Phe
130 135 140
Gly Asn Ile Leu Trp Val Thr Pro Gln Asp Leu Tyr Phe Leu Gly Ile
145 150 155 160
Leu Asp Leu Phe Ile Val Ala Thr Val Ser Ile Cys His Thr Arg Phe
165 170 175
Leu Ala Leu Cys Phe Asp Glu Lys Tyr Met Ala Leu Asn His Tyr Ser
180 185 190
Ile Lys Thr Trp Tyr Leu Leu Leu Leu Ile Leu Thr Ala Ile Thr Thr
195 200 205
Val Val Leu Met Tyr Val Met Gly Val Ile Leu Met Leu Ser Met Leu
210 215 220
Val Leu Pro Val Ser Ile Ala Cys Arg Phe Ser Tyr Lys Met Ser His
225 230 235 240
Ile Ile Tyr Ile Ala Ser Ile Leu Asn Ile Val Cys Ser Phe Leu Gly
245 250 255
Ile Met Leu Ala Tyr Leu Leu Asp Leu Pro Val Gly Pro Val Ile Ala
260 265 270
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35 40 45
Thr Gln Leu Met Leu Arg Leu Leu Gln Pro Val Cys Gly Ser Ile Ser
50 55 60
Thr Tyr Ser Val Gln Asp His Arg Pro Leu Ser Ile Gly Trp Val Pro
65 70 75 80
Gln His Phe Ser Tyr Asp Ala Ala Phe Pro Ile Thr Val Lys Glu Thr
85 90 95
Val Leu Ser Gly Arg Leu Ala Thr Leu Pro Trp Tyr Gly Arg Tyr Thr
100 105 110
Gln Glu Asp His Glu Ala Ala Glu Glu Ala Leu Leu Thr Val Asp Leu

115 120 125
Ile Asp Tyr Lys Asp Ser Cys Phe Ser His Leu Ser Gly Gly Gln Ile
130 135 140
Gln Arg Val Leu Leu Ala Arg Ala Leu Ala Ala Arg Pro Glu Phe Leu
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Leu Leu Asp Glu Pro Thr Ala Asn Ile Asp Pro Val Asn Gln Gln Lys
165 170 175
Ile Leu Gln Ile Leu Ser Ala Leu Asn Lys His Cys Thr Ile Leu Met
180 185 190
Ile Thr His Asp Leu His His Thr Ala Gly Cys Phe Asn Arg Val Phe
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Phe Met Asn Lys Thr Leu Thr Thr Leu Ala Asp Thr Thr Thr Ile Ser
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Glu Arg Phe Cys Cys Asn Thr Phe Gly Arg Cys Pro
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Cys Ser Tyr Gly Asp Glu Val Ser Thr Arg Lys Gln Ile Leu Val Ser
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Ile Val Pro Tyr Lys Phe Leu Val Glu Gln Ile Ala Gly Asp Thr Cys
35 40 45
Gln Val Phe Ser Ile Val Met Asp Asn His Asp Pro His Asn Tyr Glu
50 55 60
Leu Ser Pro Lys Tyr Ile Glu Lys Ile Arg Gln Val Glu Leu Trp Phe
65 70 75 80
Arg Ile Gly Glu Gly Phe Glu Lys Thr Cys Glu Arg Ile Ile Ser Cys
85 90 95
Lys Gln Val Asp Leu Ala Ala Asn Ile Asp Lys Ile Thr Asn Gly Ala
100 105 110
Cys Cys Gln Arg Phe Leu Ser Phe Asp Thr His Thr Trp Leu Ser Pro
115 120 125
Lys Asn Leu Lys Ile Gln Ile Gln Ala Ile Thr Glu Ala Leu Val Glu
130 135 140
Thr Ala Pro Glu His Glu Thr Leu Tyr Arg Lys Asn Cys Ser Leu Leu
145 150 155 160
Gln Ser Gln Leu Asp Leu Leu Asp Gln Lys Ile Ser Ser Ile Val Ser
165 170 175
Ser Thr Ser Gln Arg Asn Val Leu Val Thr His Gly Ala Phe Ala Tyr
180 185 190
Phe Cys Arg Asp Tyr Gly Phe Ile Gln His Thr Ile Glu Arg Ala Asn
195 200 205
His Ser Glu Leu Ser Pro Lys Asp Val Val Arg Val Glu Arg Thr Ile
210 215 220
Arg Asp His Asn Leu His Ser Val Ile Leu Leu Lys His Ala Gly Lys
225 230 235 240
Arg Ser Ser Ala Ala Leu Val Arg Lys Phe Asn Met Thr Pro Ile Leu
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Leu Asp Pro Tyr Ala Glu Asp Val Phe Asn Asn Leu Leu Ala Ile Ala
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Thr Ala Phe Ala Asn Leu
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<400>1070

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Asn Ala Asn Asn Ala Thr Asp Thr Gln Arg Lys Asp Thr Phe Gly Gly
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65                  70                  75                  80
Leu Glu Asn Val Ala Asp Leu Gly Ser Ala Ile Gly Leu Val Pro Asp
                85                  90                  95
Thr Gln Asn Thr Glu Thr Val Lys Leu Glu Ser Gly Ser Tyr Tyr Phe
            100                 105                 110
Glu Lys Asn Lys Ala Leu Lys Arg Ala Thr Ile Tyr Ala Pro Val Val
        115                 120                 125
Ser Ile Lys Ala Tyr Thr Ala Thr Phe Asn Gln Asn Arg Ser Leu Glu
    130                 135                 140
Glu Gly Ser Ala Ile Tyr Phe Thr Lys Glu Ala Ser Ile Glu Ser Leu
145                 150                 155                 160
Gly Ser Val Leu Phe Thr Gly Asn Leu Val Thr Pro Thr Leu Ser Thr
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Thr Thr Glu Gly Thr Pro Ala Thr Thr Ser Gly Asp Val Thr Lys Tyr
            180                 185                 190
Gly Ala Ala Ile Phe Gly Gln Ile Ala Ser Ser Asn Gly Ser Gln Thr
        195                 200                 205
Asp Asn Leu Pro Leu Lys Leu Ile Ala Ser Gly Gly Asn Ile Cys Phe
    210                 215                 220
Arg Asn Asn Glu Tyr Arg Pro Thr Ser Ser Asp Thr Gly Thr Ser Thr
225                 230                 235                 240
Phe Cys Ser Ile Ala Gly Asp Val Lys Leu Thr Met Gln Ala Ala Lys
                245                 250                 255
Gly Lys Thr Ile Ser Phe Phe Asp Ala Ile Arg Thr Ser Thr Lys Lys
            260                 265                 270
Thr Gly Thr Gln Ala Thr Ala Tyr Asp Thr Leu Asp Ile Asn Lys Ser
        275                 280                 285
Glu Asp Ser Glu Thr Val Asn Ser Ala Phe Thr Gly Thr Ile Leu Phe
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Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro Gln Asn Val Val
305                 310                 315                 320
Leu His Ser Gly Ser Leu Val Leu Lys Pro Asn Thr Glu Leu His Val
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Ile Ser Phe Glu Gln Lys Glu Gly Ser Ser Leu Val Met Thr Pro Gly
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Ser Val Leu Ser Asn Gln Thr Val Ala Asp Gly Ala Leu Val Ile Asn
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Asn Met Thr Ile Asp Leu Ser Ser Val Glu Lys Asn Gly Ile Ala Glu
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Gly Asn Ile Phe Thr Pro Pro Glu Leu Arg Ile Ile Asp Thr Thr Thr
385                 390                 395                 400
Ser Gly Ser Gly Gly Thr Pro Ser Thr Asp Ser Glu Ser Asn Gln Asn
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Ser Asp Asp Thr Lys Glu Gln Asn Asn Asn Asp Ala Ser Asn Gln Gly
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Glu Ser Ala Asn Gly Ser Ser Ser Pro Ala Val Ala Ala Ala His Thr
        435                 440                 445
Ser Arg Thr Arg Asn Phe Ala Ala Ala Ala Thr Ala Thr Pro Thr Thr
    450                 455                 460
Thr Pro Thr Ala Thr Thr Thr Thr Ser Asn Gln Val Ile Leu Gly Gly
465                 470                 475                 480
Glu Ile Lys Leu Ile Asp Pro Asn Gly Thr Phe Phe Gln Asn Pro Ala
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485 490 495
Leu Arg Ser Asp Gln Gln Ile Ser Leu Leu Val Leu Pro Thr Asp Ser
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Ser Lys Met Gln Ala Gln Lys Ile Val Leu Thr Gly Asp Ile Ala Pro
515 520 525
Gln Lys Gly Tyr Thr Gly Thr Leu Thr Leu Asp Pro Asp Gln Leu Gln
530 535 540
Asn Gly Thr Ile Ser Ala Leu Trp Lys Phe Asp Ser Tyr Arg Gln Trp
545 550 555 560
Ala Tyr Val Pro Arg Asp Asn His Phe Tyr Ala Asn Ser Ile Leu Gly
565 570 575
Ser Gln Met Ser Met Val Thr Val Lys Gln Gly Leu Leu Asn Asp Lys
580 585 590
Met Asn Leu Ala Arg Phe Asp Glu Val Ser Tyr Asn Asn Leu Trp Ile
595 600 605
Ser Gly Leu Gly Thr Met Leu Ser Gln Val Gly Thr Pro Thr Ser Glu
610 615 620
Glu Phe Thr Tyr Tyr Ser Arg Gly Ala Ser Val Ala Leu Asp Ala Lys
625 630 635 640
Pro Ala His Asp Val Ile Val Gly Ala Ala Phe Ser Lys Met Ile Gly
645 650 655
Lys Thr Lys Ser Leu Lys Arg Glu Asn Asn Tyr Thr His Lys Gly Ser
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Glu Tyr Ser Tyr Gln Ala Ser Val Tyr Gly Gly Lys Pro Phe His Phe
675 680 685
Val Ile Asn Lys Lys Thr Glu Lys Ser Leu Pro Leu Leu Leu Gln Gly
690 695 700
Val Ile Ser Tyr Gly Tyr Ile Lys His Asp Thr Val Thr His Tyr Pro
705 710 715 720
Thr Ile Arg Glu Arg Asn Gln Gly Glu Trp Glu Asp Leu Gly Trp Leu
725 730 735
Thr Ala Leu Arg Val Ser Ser Val Leu Arg Thr Pro Ala Gln Gly Asp
740 745 750
Thr Lys Arg Ile Thr Val Tyr Gly Glu Leu Glu Tyr Ser Ser Ile Arg
755 760 765
Gln Lys Gln Phe Thr Glu Thr Glu Tyr Asp Pro Arg Tyr Phe Asp Asn
770 775 780
Cys Thr Tyr Arg Asn Leu Ala Ile Pro Met Gly Leu Ala Phe Glu Gly
785 790 795 800
Glu Leu Ser Gly Asn Asp Ile Leu Met Tyr Asn Arg Phe Ser Val Ala
805 810 815
Tyr Met Pro Ser Ile Tyr Arg Asn Ser Pro Thr Cys Lys Tyr Gln Val
820 825 830
Leu Ser Ser Gly Glu Gly Gly Glu Ile Ile Cys Gly Val Pro Thr Arg
835 840 845
Asn Ser Ala Arg Gly Glu Tyr Ser Thr Gln Leu Tyr Pro Gly Pro Leu
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Cys Asn Val Ser Lys Val Gly Tyr Ser Thr Ser Gln Ala Phe Thr Asp

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          35                  40                  45
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Phe Tyr Asp Phe Ser Thr Ser Ser Gly Leu Pro Arg Lys His Leu Ser
 65                  70                  75                  80
Ser Ser Ser Glu Ala Ser Pro Thr Thr Glu Gly Val Ser Ser Ser Ser
                 85                  90                  95
Ser Gly Glu Asn Thr Glu Asn Ser Gln Asp Ser Ala Pro Ser Ser Gly
            100                 105                 110
Glu Thr Asp Lys Lys Thr Glu Glu Glu Leu Asp Asn Gly Gly Ile Ile
        115                 120                 125
Tyr Ala Arg Glu Lys Leu Thr Ile Ser Clu Ser Gln Asp Ser Leu Ser
    130                 135                 140
Asn Pro Ser Ile Glu Leu His Asp Asn Ser Phe Phe Phe Gly Glu Gly
145                 150                 155                 160
Glu Val Ile Phe Asp His Arg Val Ala Leu Lys Asn Gly Gly Ala Ile
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Tyr Gly Glu Lys Glu Val Val Phe Glu Asn Ile Lys Ser Leu Leu Val
            180                 185                 190
Glu Val Asn Ile Ser Xaa Glu Lys Gly Gly Ser Val Tyr Ala Lys Glu
        195                 200                 205
Arg Val Ser Leu Glu Asn Val Thr Glu Ala Thr Phe Ser Ser Asn Gly
    210                 215                 220
Gly Glu Gln Gly Gly Gly Gly Ile Tyr Ser Glu Gln Asp Met Leu Ile
225                 230                 235                 240
Ser Asp Cys Asn Asn Val His Phe Gln Gly Asn Ala Ala Gly Ala Thr
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Cys Val Asp Ser Leu Ser Glu Asp Thr Leu Asp Ser Thr Pro Glu Thr
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Glu Gln Thr Lys Ser Asn Gly Asn Gln Asp Gly Ser Ser Glu Thr Lys
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Asp Thr Gln Val Ser Glu Ser Pro Glu Ser Thr Pro Ser Pro Asp Asp
305                 310                 315                 320
Val Leu Gly Lys Gly Gly Gly Ile Tyr Thr Glu Lys Ser Leu Thr Ile
                325                 330                 335
Thr Gly Ile Thr Gly Thr Ile Asp Phe Val Ser Asn Ile Ala Thr Asp
            340                 345                 350
Ser Gly Ala Gly Val Phe Thr Lys Glu Asn Leu Ser Cys Thr Asn Thr
        355                 360                 365
Asn Ser Leu Gln Phe Leu Lys Asn Ser Ala Gly Gln His Gly Gly Gly
    370                 375                 380
Ala Tyr Val Thr Gln Thr Met Ser Val Thr Asn Thr Thr Ser Glu Ser
385                 390                 395                 400
Ile Thr Thr Pro Pro Leu Val Gly Glu Val Ile Phe Ser Glu Asn Thr
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Ala Lys Gly His Gly Gly Gly Ile Cys Thr Asn Lys Leu Ser Leu Ser
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Asn Leu Lys Thr Val Thr Leu Thr Lys Asn Ser Ala Lys Glu Ser Gly
        435                 440                 445
Gly Ala Ile Phe Thr Asp Leu Ala Ser Ile Pro Thr Thr Asp Thr Pro
    450                 455                 460
Glu Ser Ser Thr Pro Ser Ser Ser Ser Pro Ala Ser Thr Xaa Glu Val
465                 470                 475                 480
Val Ala Ser Ala Lys Ile Asn Arg Phe Phe Ala Ser Thr Ala Glu Pro
                485                 490                 495
Ala Ala Pro Ser Leu Thr Glu Ala Glu Ser Asp Gln Thr Asp Gln Thr
            500                 505                 510
Glu Thr Ser Asp Thr Asn Ser Asp Ile Asp Val Ser Ile Glu Asn Ile
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Leu Asn Val Ala Ile Asn Gln Asn Thr Ser Ala Lys Lys Gly Gly Ala
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Ile Tyr Gly Lys Lys Ala Lys Leu Ser Arg Ile Asn Asn Leu Glu Leu
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Ser Gly Asn Ser Ser Gln Asp Val Gly Gly Gly Leu Cys Leu Thr Glu
565 570 575
Ser Val Glu Phe Asp Ala Ile Gly Ser Leu Leu Ser His Tyr Asn Ser
580 585 590
Ala Ala Lys Glu Gly Gly Val Ile His Ser Lys Thr Val Thr Leu Ser
595 600 605
Asn Leu Lys Ser Thr Phe Thr Phe Ala Asp Asn Thr Val Lys Ala Ile
610 615 620
Val Glu Ser Thr Pro Glu Ala Pro Glu Glu Ile Pro Pro Val Glu Gly
625 630 635 640
Glu Glu Ser Thr Ala Thr Glu Asn Pro Asn Ser Asn Thr Glu Gly Ser
645 650 655
Ser Ala Asn Thr Asn Leu Glu Gly Ser Gln Gly Asp Thr Ala Asp Thr
660 665 670
Gly Thr Gly Val Val Asn Asn Glu Ser Gln Asp Thr Ser Asp Thr Gly
675 680 685
Asn Ala Glu Ser Gly Glu Gln Leu Gln Asp Ser Thr Gln Ser Asn Glu
690 695 700
Glu Asn Thr Leu Pro Asn Ser Ser Ile Asp Gln Ser Asn Glu Asn Thr
705 710 715 720
Asp Glu Ser Ser Asp Ser His Thr Glu Glu Ile Thr Asp Glu Ser Val
725 730 735
Ser Ser Ser Ser Lys Ser Gly Ser Ser Thr Pro Gln Asp Gly Gly Ala
740 745 750
Ala Ser Ser Gly Ala Pro Ser Gly Asp Gln Ser Ile Ser Ala Asn Ala
755 760 765
Cys Leu Ala Lys Ser Tyr Ala Ala Ser Thr Asp Ser Ser Pro Val Ser
770 775 780
Asn Ser Ser Gly Ser Asp Val Thr Ala Ser Ser Asp Asn Pro Asp Ser
785 790 795 800
Ser Ser Ser Gly Asp Ser Ala Gly Asp Ser Glu Gly Pro Thr Glu Pro
805 810 815
Glu Ala Gly Ser Thr Thr Glu Thr Pro Thr Leu Ile Gly Gly Gly Ala
820 825 830
Ile Tyr Gly Glu Thr Val Lys Ile Glu Asn Phe Ser Gly Gln Gly Ile
835 840 845
Phe Ser Gly Asn Lys Ala Ile Asp Asn Thr Thr Glu Gly Ser Ser Ser
850 855 860
Lys Ser Asn Val Leu Gly Gly Ala Val Tyr Ala Lys Thr Leu Phe Asn
865 870 875 880
Leu Asp Ser Gly Thr Leu Asp Glu Leu Ser Pro Ser Pro Gly Ile Leu
885 890 895
Ser Leu Leu Asn Leu Gln Gln Val Arg Leu Leu Glu Glu Leu Ser Thr
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Leu Leu Leu
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<400>1072
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20 25 30
Ala Gly Glu Glu Glu Glu Gly Val Glu Asp Ser Gly Val Ser Val Val
35 40 45

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Gly Ile Asp Ala Arg Ser Val Lys Ile Ala Pro Pro Asp Ser Phe Ala
     50                  55                  60
Glu Phe Leu Val Arg Val Thr Val Phe Lys Leu Asp Lys Glu Ser Leu
 65                  70                  75                  80
Leu Val Gln Ile Pro Pro Pro Cys Pro Leu Ala Val Phe Ser Glu Lys
                 85                  90                  95
Ile Thr Ser Pro Thr Arg Gly Gly Val Val Ile Leu Ser Leu Val Val
            100                 105                 110
Leu Val Thr Asp Met Val
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<213>Chlamydia trachomatis
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Thr Pro Val His Gly Glu Thr Val Ile Thr Gly Asn Lys Ser Thr Gly
        35                  40                  45
Gly Asn Gly Gly Gly Val Cys Thr Lys Arg Leu Ala Leu Ser Asn Leu
     50                  55                  60
Gln Ser Ile Ser Ile Ser Gly Asn Ser Ala Ala Glu Asn Gly Gly Gly
 65                  70                  75                  80
Ala Tyr Thr Cys Pro Asp Ser Phe Pro Thr Ala Asp Thr Ala Glu Gln
                 85                  90                  95
Pro Ala Ala Ala Ser Ala Ala Thr Ser Thr Pro Glu Ser Asp Pro Val
            100                 105                 110
Ala Ser Thr Ala Leu Ser Thr Pro Ser Ser Ser Thr Val Ser Ser Leu
        115                 120                 125
Thr Leu Leu Ala Ala Ser Ser Gln Ala Ser Pro Ala Thr Ser Asn Glu
    130                 135                 140
Lys Thr Gln Asp Pro Asn Ala Asp Thr Asp Leu Leu Ile Asp Tyr Val
145                 150                 155                 160
Val Asp Thr Thr Ile Ser Lys Asn Thr Ala Lys Lys Gly Gly Gly Ile
                165                 170                 175
Tyr Ala Lys Lys Ala Lys Met Ser Arg Ile Asp Gln Leu Asn Ile Ser
            180                 185                 190
Glu Asn Ser Ala Thr Glu Ile Gly Gly Gly Ile Cys Cys Lys Lys Ser
        195                 200                 205
Leu Lys Leu Asp Ala Leu Val Ser Leu Ser Val Thr Glu Asn Leu Val
    210                 215                 220
Gly Lys Glu Gly Gly Gly Leu His Ala Lys Thr Val Asn Ile Ser Asn
225                 230                 235                 240
Leu Lys Ser Gly Phe Ser Phe Ser Asn Asn Lys Ala Asn Ser Ser Ser
                245                 250                 255
Thr Gly Val Ala Thr Thr Ala Ser Ala Pro Ala Ala Ala Ala Ala Ser
            260                 265                 270
Leu Gln Ala Ala Ala Ala Ala Ala Pro Ser Ser Pro Ala Thr Pro Thr
        275                 280                 285
Tyr Ser Gly Val Val Gly Gly Ala Ile Tyr Gly Glu Gln Phe Thr Phe
    290                 295                 300
Ser Gln Cys Ser Gly Thr Cys Gln Phe Ser Gly Asn Gln Ala Ile Asp
305                 310                 315                 320
Asn Asn Pro Ser Gln Ser Ser Leu Asn Val Gln Gly Gly Ala Ile Tyr
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Ala Lys Thr Ser Leu Ser Ile Arg Ser Ser Asp Ala Gly Thr Ser Tyr
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Ile Phe Ser Gly Asn Ser Val Ser Thr Gly Lys Ser Gln Thr Thr Gly
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Pro Ala Thr Phe Ser Asn Asn Thr Ala Ser Met Ala Thr Pro Lys Thr
385                 390                 395                 400
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                405                 410                 415
Ala Gly Thr Ala Ile Thr Leu Ser Gly Val Ser Arg Phe Ser Gly Asn
            420                 425                 430
Thr Ala Asp Leu Gly Ala Ala Ile Gly Thr Leu Ala Asn Ala Asn Thr
        435                 440                 445
Pro Arg Ala Thr Ser Gly Ser Gln Asn Ser Ile Thr Glu Lys Ile Thr
    450                 455                 460
Leu Lys Asn Ser Ser Phe Ile Phe Glu Arg Asn Gln Ala Asn Lys Arg
465                 470                 475                 480
Gly Ala Ile Tyr Ser Pro Ser Val Ser Ile Lys Gly Asn Asn Ile Thr
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Phe Asn Gln Asn Thr Ser Thr His Asp Gly Ser Ala Ile Tyr Phe Thr
            500                 505                 510
Lys Asp Ala Lys Ile Glu Ser Leu Gly Ser Val Leu Phe Thr Gly Asn
        515                 520                 525
Lys Val Thr Ala Thr Gln Ala Ser Ser Ala Thr Ser Gly Gln Asn Thr
    530                 535                 540
Asn Thr Ala Asn Tyr Gly Ala Ala Ile Phe Gly Asp Pro Gly Thr Thr
545                 550                 555                 560
Gln Ser Pro Gln Thr Asp Ala Ile Leu Thr Leu Leu Ala Ser Ser Gly
                565                 570                 575
Asn Ile Thr Phe Ser Asn Asn Ser Leu Gln Asn Asn Gln Gly Gly Thr
            580                 585                 590
Pro Ala Ser Lys Phe Cys Ser Ile Ala Gly Tyr Val Lys Leu Ser Leu
        595                 600                 605
Gln Ala Thr Lys Gly Lys Thr Ile Ser Phe Phe Asp Cys Val His Thr
    610                 615                 620
Ser Thr Lys Lys Thr Gly Ser Thr Gln Asn Val Tyr Glu Thr Leu Asp
625                 630                 635                 640
Ile Asn Lys Lys Glu Asn Ser Lys Pro Tyr Thr Gly Thr Ile Val Phe
                645                 650                 655
Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro Gln Asn Ala Ile
            660                 665                 670
Leu His Asn Gly Thr Leu Val Leu Lys Glu Lys Thr Glu Leu His Val
        675                 680                 685
Val Ser Phe Glu Gln Lys Glu Gly Ser Lys Leu Ile Met Glu Pro Gly
    690                 695                 700
Ala Val Leu Ser Asn Gln Asn Ile Ala Asn Gly Ala Leu Ala Ile Asn
705                 710                 715                 720
Gly Leu Thr Ile Asp Leu Ser Ser Met Gly Thr Pro Gln Ala Gly Glu
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Ile Phe Ser Pro Pro Glu Leu Arg Ile Val Ala Thr Thr Ser Ser Ala
            740                 745                 750
Ser Gly Arg Ser Gly Val Ser Arg Ser Ile Pro Thr Asn Pro Lys Gly
        755                 760                 765
Ile Ser Ala Ala Ala Pro Ser Gly Ser Ala Ala Thr Thr Pro Thr Met
    770                 775                 780
Ser Glu Asn Lys Val Phe Leu Thr Gly Asp Leu Thr Leu Ile Asp Pro
785                 790                 795                 800
Asn Gly Asn Phe Tyr Gln Asn Pro Met Leu Gly Ser Asp Leu Asp Val
                805                 810                 815
Pro Leu Ile Lys Leu Pro Thr Asn Thr Ser Asp Val Gln Val Tyr Asp
            820                 825                 830
Leu Thr Leu Ser Gly Asp Leu Phe Pro Gln Lys Gly Tyr Met Gly Thr
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Trp Thr Leu Asn Ser Asn Pro Gln Thr Gly Lys Leu Gln Ala Arg Trp
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SEQUENCE LISTING

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                885                 890                 895
Lys Gln Gly Leu Ile Asn Asn Met Leu Asn Asn Ala Arg Phe Asp Asp
            900                 905                 910
Ile Ala Tyr Asn Asn Phe Trp Val Ser Gly Val Gly Thr Phe Leu Ala
        915                 920                 925
Gln Gln Gly Thr Pro Leu Ser Glu Glu Phe Ser Tyr Tyr Ser Arg Gly
    930                 935                 940
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945                 950                 955                 960
Ala Ala Phe Ser Lys Met Val Gly Lys Thr Lys Ala Ile Lys Lys Met
                965                 970                 975
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            980                 985                 990
Tyr Gly Gly Lys Phe Leu Tyr Phe Leu Leu Asn Lys Gln His Gly Trp
        995                1000                1005
Ala Leu Pro Phe Leu Ile Gln Gly Val Val Ser Tyr Gly His Ile Lys
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His Asp Thr Thr Ile Leu Tyr Pro Ser Ile His Glu Arg Asn Lys Gly
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Asp Trp Glu Asp Leu Gly Trp Leu Ala Asp Leu Arg Ile Ser Met Asp
                1045                1050                1055
Leu Lys Glu Pro Ser Lys Asp Ser Ser Lys Arg Ile Thr Val Tyr Gly
            1060                1065                1070
Glu Leu Glu Tyr Ser Ser Ile Arg Gln Lys Gln Phe Thr Glu Ile Asp
        1075                1080                1085
Tyr Asp Pro Arg His Phe Asp Asp Cys Ala Tyr Arg Asn Leu Ser Leu
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Pro Val Gly Cys Ala Val Glu Gly Ala Ile Met Asn Cys Asn Ile Leu
1105                1110                1115                1120
Met Tyr Asn Lys Leu Ala Leu Ala Tyr Met Pro Ser Ile Tyr Arg Asn
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Asn Pro Val Cys Lys Tyr Arg Val Leu Ser Ser Asn Glu Ala Gly Gln
            1140                1145                1150
Val Ile Cys Gly Val Pro Thr Arg Thr Ser Ala Arg Ala Glu Tyr Ser
        1155                1160                1165
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1185                1190
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        35                  40                  45
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Asp Glu Glu Phe Ala Leu Leu Phe Glu Lys Glu Lys Pro Asp Phe Arg
35 40 45
Leu Glu Ile Phe Thr Val Leu Ala Cys Lys Pro Pro Pro Ser Phe Pro
50 55 60
Thr Arg Phe Ser Val Thr Asp Lys Glu Thr Arg Ala Ser Ser Phe Lys
65 70 75 80
Asp Phe Leu Gln Gln Ile Pro Pro Pro Ile Ser Val Ala Glu Phe Ser
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20 25 30
Gly Thr Ser Ser Ser Thr Thr Phe Thr Glu Thr Val Gly Glu Ala Gly
35 40 45
Ala Glu Tyr Ile Val Ser Ser Asn Ala Ser Phe Thr Lys Phe Thr Asn
50 55 60
Ile Pro Thr Thr Asn Thr Thr Thr Pro Thr Asn Ser Asn Ser Ser Ser
65 70 75 80
Ser Asn Arg Glu Thr Ala Ser Val Ser Lys Asp Ser Asp Ser Thr Thr
85 90 95
Thr Thr Pro Asp Pro Lys Gly Gly Gly Ala Phe Tyr Asn Ala His Ser
100 105 110
Gly Val Leu Ser Phe Met Thr Arg Ser Gly Thr Glu Gly Ser Leu Thr
115 120 125
Leu Ser Glu Ile Lys Met Thr Gly Glu Gly Gly Ala Ile Phe Ser Gln
130 135 140
Gly Glu Leu Leu Phe Thr Asp Leu Thr Gly Leu Thr Ile Gln Asn Asn
145 150 155 160
Leu Ser Gln Leu Ser Gly Gly Ala Ile Phe Gly Gly Ser Thr Ile Ser
165 170 175
Leu Ser Gly Ile Thr Lys Ala Thr Phe Ser Ser Asn Ser Ala Glu Val
180 185 190
Pro Ala Pro Val Lys Lys Pro Thr Lys Pro Glu Ala Gln Thr Ala Gly
195 200 205
Glu Thr Ser Gly Ser Ser Ser Ser Ser Gly Asn Asp Ser Ala Ser Ser
210 215 220
Ser Ser Ser Ser Lys Ala Glu Pro Ala Ala Ala Asn Leu Gln Ser His
225 230 235 240
Phe Ile Cys Ala Thr Ala Thr Pro Ala Ala Gln Thr Asp Thr Glu Thr
245 250 255
Ser Thr Pro Ser His Lys Pro Gly Ser Gly Gly Ala Ile Tyr Ala Lys
260 265 270
Gly Asp Leu Thr Ile Ala Asp Ser Gln Lys Val Leu Phe Ser Ile Asn
275 280 285
Lys Ala Thr Lys Asp Gly Gly Ala Ile Phe Ala Glu Lys Asp Val Ser
290 295 300
Phe Glu Asn Ile Thr Ser Leu Lys Val Gln Thr Asn Gly Ala Glu Glu
305 310 315 320

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Lys Gly Gly Ala Ile Tyr Ala Lys Gly Asp Leu Ser Ile Gln Ser Ser
                325                 330                 335
Lys Gln Ser Leu Phe Asn Ser Asn Tyr Ser Lys Gln Gly Gly Gly Ala
            340                 345                 350
Leu Tyr Val Glu Gly Asn Ile Asn Phe Gln Asp Leu Glu Glu Ile Arg
        355                 360                 365
Ile Lys Tyr Asn Lys Ala Gly Thr Phe Lys Thr Lys Lys Ile Thr Leu
    370                 375                 380
Pro Ser Lys Ala Gln Ala Ser Ala Gly Asn Ala Asp Ala Trp Ala Ser
385                 390                 395                 400
Ser Ser Pro Gln Ser Ser Ser Gly Ala Thr Thr Val Ser Asp Ser Gly
                405                 410                 415
Asp Ser Ser Ser Gly Ser Asn Ser Asp Thr Ser Lys Thr Val Pro Val
            420                 425                 430
Thr Ala Lys Gly Gly Gly Leu Tyr Thr Asp Lys Asn Leu Ser Ile Thr
        435                 440                 445
Asn Ile Thr Gly Ile Ile Glu Ile Ala Ile Asn Lys Ala Thr Asp Val
    450                 455                 460
Gly Gly Gly Ala Tyr Val Lys Gly Thr Leu Thr Cys Lys Asn Ser His
465                 470                 475                 480
Arg Leu Gln Phe Leu Lys Asn Ser Ser Asp Lys Gln Gly Gly Gly Ile
                485                 490                 495
Tyr Gly Glu Asp Asn Ile Thr Leu Ser Asn Leu Thr Gly Lys Thr Leu
            500                 505                 510
Phe Gln Glu Asn Thr Ala Lys Lys Glu Gly Gly Gly Leu Phe Ile Lys
        515                 520                 525
Gly Thr Asp Lys Ala Leu Thr Met Thr Gly Leu Asp Ser Phe Cys Leu
    530                 535                 540
Ile Asn Asn Thr Ser Glu Lys His Gly Gly Gly Ala Phe Val Thr Gln
545                 550                 555                 560
Arg Asn Leu Ser Asp Leu His Leu
                565
```

<210>1077
<211>133
<212>PRT
<213>Chlamydia trachomatis
<400>1077

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Lys Arg Met Gly Lys Ser Lys Asp Tyr Leu Tyr Pro Arg Thr Glu Val
  1               5                  10                  15
Pro Phe Cys Ser Pro Leu Thr Thr Val Ala Glu Ser Leu Pro Ile Leu
             20                  25                  30
Ser Ser Tyr Gly Tyr Gly Cys Val Cys Val Val Asn Glu Leu Phe Glu
         35                  40                  45
Leu Leu Gly Ile Phe Thr Asp Gly Asp Leu Arg Arg Gly Leu Ser Glu
     50                  55                  60
Tyr Gly Gly Asp Ile Leu Ala Tyr Pro Leu Gln Gln Ile Met Thr Arg
 65                  70                  75                  80
Asn Pro Lys Val Ile Ser Glu Asp Ser Asp Val Leu Leu Ser Leu Glu
                 85                  90                  95
Met Met Glu Ser Gly Asn Pro Val Thr Val Leu Pro Val Val Asp Ala
            100                 105                 110
Gln Gln Gln Arg Phe Ile Val Gly Leu Leu His Met His Ala Leu Ala
        115                 120                 125
Arg Ala Gly Leu Leu
    130
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<210>1078
<211>124
<212>PRT
<213>Chlamydia trachomatis
<400>1078

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Asp Phe Phe Pro Val Val Glu Glu Asp Ser Glu Gly Asn Cys Ser Ser
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```
  1               5                  10                  15
Lys Lys Ala Phe Ile Asp Leu Gly Asn Lys Thr Phe Phe Leu Arg Glu
            20                  25                  30
Ala Ser Pro Ala Ile Arg Val Thr Ser Leu Leu Gly Ile Asp Lys Lys
        35                  40                  45
Phe Ala Ser Asn Ala Thr Thr Ala Ser Leu Ala Leu Pro Phe Ser Gly
    50                  55                  60
Thr Ser Val Thr Arg Thr Leu Asn Ile Pro Ser Ser Lys His Thr Thr
65                  70                  75                  80
Leu Phe Ser Arg Ala Phe Val Val Thr Leu Thr Ser Lys Thr Gln Lys
                85                  90                  95
Pro Ser Asn Lys Ile Phe Ser Phe Ser Leu Leu Arg Ser Phe Lys Arg
            100                 105                 110
Lys Arg Thr Val Phe Thr Phe Pro His Thr Ile Asn
        115                 120
<210>1079
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>1079
Lys Ile Leu Trp Phe Phe Met Val Ser Arg Val Pro Gly Ser Ser Asp
  1               5                  10                  15
Pro Val Asp Val Asn Ala Leu Ser Asn Leu Ser Pro Val Gln Asn Gln
            20                  25                  30
Asn Ser Gly Val Ser Val Ser Ala Ile Tyr Leu Pro Asn Glu Thr Val
        35                  40                  45
Ser Lys Ser Gly Lys Thr Leu Lys Tyr Ser Thr Glu Leu Ile Ala Gly
    50                  55                  60
Ile Val Cys Ile Arg Gly Cys Ile Ser Asn Cys Gly Tyr Arg Pro Asn
65                  70                  75                  80
Asp Thr Ser Ser Trp Ser Ser Ala Ile Asp Cys Phe Ser Asp Cys Phe
                85                  90                  95
Phe Arg Asn Phe Cys Arg Trp Ser Tyr His Val Lys Lys Ser Tyr
            100                 105                 110
<210>1080
<211>76
<212>PRT
<213>Chlamydia trachomatis
<400>1080
Leu Gln Val Leu Phe Val Leu Gly Val Ala Leu Ala Ile Val Ala Ile
  1               5                  10                  15
Ala Leu Thr Ile Leu Ala Pro Gly Val Pro Gln Ser Ile Val Leu Ala
            20                  25                  30
Ile Ala Phe Ser Gly Ile Ser Val Gly Gly Val Thr Thr Leu Arg Ser
        35                  40                  45
Leu Ile Asn Gly Ile Lys Thr Val Val Ala Pro Arg Met Thr Phe Arg
    50                  55                  60
Gln Arg Ala Lys Ser Ala Leu Ser Leu Val Gln Asp
65                  70                  75
<210>1081
<211>109
<212>PRT
<213>Chlamydia trachomatis
<400>1081
Ala Arg Leu Pro Gly Glu Ala Ser Lys Ala Ile Ala Arg Ile Met Pro
  1               5                  10                  15
Thr Ala Arg Arg Glu His Ala Lys Ile Met Glu Ile Leu Ile Gln Glu
            20                  25                  30
Ala Pro Asp Arg Trp Phe Gly Ile Phe Glu Ser Glu Val Val Glu Gly
        35                  40                  45
Glu Thr Gly Ala Tyr Ser Lys Thr Glu Gly Phe Cys Thr Thr Gly Ile
```

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     50                  55                  60
Cys Phe Tyr Tyr Gln Thr Lys Lys Phe Val Asn Ser Leu Gly Arg Glu
 65                  70                  75                  80
Gly Leu Glu Glu Val Ser Ser Ser Lys Pro Leu His Phe Thr Lys Lys
                 85                  90                  95
Ala Tyr Leu Pro Arg Leu Ile Lys Val Lys Gly Tyr Arg
            100                 105
<210>1082
<211>96
<212>PRT
<213>Chlamydia trachomatis
<400>1082
Met Thr Lys Asp Pro Glu Lys Lys Ala Val Leu Tyr Arg Tyr Ala Glu
  1               5                  10                  15
Gln Leu Ile Glu Asp Thr Ile Leu Phe Thr Asp Ala Glu Asn Pro Leu
            20                  25                  30
Pro Ser Pro Ser Ser Ser Tyr Leu Arg Tyr Gln Val Ser Pro Glu Thr
        35                  40                  45
Arg Thr Gln Leu Met Leu Ala Ile Leu Glu Thr Leu Val Ser Ser Lys
     50                  55                  60
Thr Asp Glu Asp Ile Arg Val Phe Leu Ser Leu Met Lys Lys Thr His
 65                  70                  75                  80
Tyr Lys Asn Ile Pro Ile Leu Ser Gly Leu Leu Met Arg Ile Val Glu
                 85                  90                  95
<210>1083
<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>1083
Leu Thr Ser Ser Lys Trp Thr Ile Val Ser Leu Thr Phe Thr Arg Pro
  1               5                  10                  15
Leu Leu Met Ser Ser Cys Met Ile Gly Pro Phe Lys Pro Ala Ala Leu
            20                  25                  30
Ile Phe Ser Gly Ile Asn Phe Val Val Ser Gly Ser Val Met Arg His
        35                  40                  45
Pro Arg Val Ser Thr Arg Trp Ser Ser Trp Arg Asp Ser Ile Arg Lys
     50                  55                  60
Leu Pro Lys Ser Ser Thr Ile Pro Ser Arg Ser Ile Gly Cys Ser Ile
 65                  70                  75                  80
Thr Leu Ile Val Ser
                 85
<210>1084
<211>131
<212>PRT
<213>Chlamydia trachomatis
<400>1084
Ser Ala Phe Glu Thr Ile Gln Glu Ala Ile Met Gln Leu Pro Ser Ile
  1               5                  10                  15
Ile Gln Ser Phe Phe Phe Pro Lys Ala Pro Pro Ser Pro Leu Lys Lys
            20                  25                  30
Pro Ile Tyr Gln Gln Thr Glu Arg Ile Ile Asn Ile Ala Tyr Leu Val
        35                  40                  45
Leu Leu Ser Leu Ser Val Val Gly Ile Ile Ser Gly Val Phe Leu Ser
     50                  55                  60
Leu Ser Phe Pro Leu Leu Gly Ala Gly Ile Cys Leu Ile Ser Leu Ala
 65                  70                  75                  80
Val Gly Ser Cys Leu Leu Val Leu Phe Pro Leu Leu Pro Asp Ile Glu
                 85                  90                  95
Lys Ile Ile Ala Leu Arg Glu Pro Lys Val Ser Ile Thr Thr Ser Ser
            100                 105                 110
Pro Leu Pro Thr Leu Met Arg Ser Phe Lys Ser Ile Gly Leu Gly Lys
```

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        115                 120                 125
Ala Ala His
    130
<210>1085
<211>125
<212>PRT
<213>Chlamydia trachomatis
<400>1085
Val Asn Ser Thr Asn Asn Thr Asp Ser Gln Asn Leu Asp Pro Asn Ala
  1               5                  10                  15
Ser Glu Val Glu Lys Leu Leu Asp Glu Ser Ala Glu Ala Glu Glu Lys
             20                  25                  30
Val Asp Asp His Thr Pro Pro Ser Glu Leu Phe Ile Leu Pro Leu Asn
         35                  40                  45
Lys Arg Pro Phe Phe Pro Gly Met Ala Ala Pro Leu Leu Ile Glu Ala
     50                  55                  60
Gly Pro His Tyr Glu Val Leu Thr Leu Leu Ala Lys Ser Ser Gln Lys
 65                  70                  75                  80
His Ile Gly Leu Val Leu Thr Lys Lys Glu Asp Ala Asn Thr Leu Lys
                 85                  90                  95
Val Gly Phe Asn Gln Leu His Arg Val Gly Val Ser Ala Arg Ile Leu
            100                 105                 110
Arg Ile Met Pro Ile Glu Gly Gly Arg Leu Lys Cys Tyr
        115                 120                 125
<210>1086
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>1086
Met Ile Arg Met Phe Lys Ile Leu Pro Leu Asp Gly Leu Ile Tyr Asn
  1               5                  10                  15
Leu Phe Tyr Pro Thr Leu Val Met Pro Ile Phe Leu Met Ile Pro Leu
             20                  25                  30
Ser Phe Leu Asn Pro Leu Leu Ser His Leu Ser Glu Ser Tyr Ile Ser
         35                  40                  45
Trp Ile Leu Asp Leu Pro Trp Leu His Ala Pro Asn Val Leu Ile Ser
     50                  55                  60
Leu Thr Ser Ala Pro Pro Thr Leu Glu Trp Ile Thr Leu Val Ser Ile
 65                  70                  75                  80
Ile Leu Val Tyr Ile Gly Ala Leu Ser Ser Val Gly Lys Ala Val Asn
                 85                  90                  95
Thr Ala Val Asp His Ser Ile Ile Leu
            100                 105
<210>1087
<211>158
<212>PRT
<213>Chlamydia trachomatis
<400>1087
Trp Asn Ser Ser Gly Ser Ala Cys His Arg Tyr Cys Val Asp Phe Cys
  1               5                  10                  15
Pro Tyr Leu Cys Leu Ser Ser Ser Tyr Arg Val Tyr Tyr Trp Ser Phe
             20                  25                  30
Phe Arg Thr Ser Asn Lys Leu Val Ser Cys Leu Trp Ile Pro Val Gln
         35                  40                  45
Ile Arg Ser Gly Tyr Ile Ala Asp Gln Glu Leu Phe Asp Lys Gln Glu
     50                  55                  60
Lys Arg Ile Arg Gln Ala Ile Met Gln Cys Arg Leu Ile Arg Asn Gln
 65                  70                  75                  80
Met Val Leu Gln Arg Arg Leu Asp Ile Leu Gln Lys Arg Ala His Arg
                 85                  90                  95
Pro Gly Gln Ser Gln Thr Ile Thr Ile Arg Pro Leu Thr Asn Arg Ile
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```
            100                 105                 110
Ser Leu Pro Glu Glu Met Glu His Glu Ile Leu Gly Lys Lys Pro Gln
        115                 120                 125
Val Val Ile Ala Met Leu Asp Asn Lys Ile Ala Gln Leu Asn Gln Ser
    130                 135                 140
Leu Val Gln Leu Tyr Asp Arg Pro Thr Arg Val Ile Glu Gln
145                 150                 155
<210>1088
<211>83
<212>PRT
<213>Chlamydia trachomatis
<400>1088
Val Thr Arg Ala Val His Val Ser Val Val Thr Ile Ser Cys Phe Val
  1               5                  10                  15
Leu Asn Val Gly Ser Val Asn Cys Asn Thr Ala Ser Phe Phe Phe Arg
            20                  25                  30
Ser Val Val Asn Arg Ala Ile Ile Thr Lys Ile Ser Gln Pro Ile Ser
        35                  40                  45
Arg Gln Arg Thr Arg Asn Ser Ser Cys Gln Arg Ser Leu Thr Met Val
    50                  55                  60
Asn Val Ala Asn Gly Pro Tyr Val Asp Met Arg Leu Ile Thr Leu Lys
65                  70                  75                  80
Ser Phe Phe

<210>1089
<211>112
<212>PRT
<213>Chlamydia trachomatis
<400>1089
Thr Leu Ser Glu Thr Leu Thr Ile Pro Arg Ser Ile Arg Pro Val Thr
  1               5                  10                  15
Val Pro Arg Pro Glu Ile Glu Asn Thr Ser Ser Met Gly Ile Lys Lys
            20                  25                  30
Gly Leu Ser Ile Ser Leu Ser Gly Val Gly Ile Leu Ser Ser Thr Ala
        35                  40                  45
Cys Ile Ser Ser Arg Thr Phe Ser Met Tyr Ala Ala Ser Pro Ser Lys
    50                  55                  60
Ala Phe Arg Ala Glu Pro Leu Met Ile Gly His Pro Leu Tyr Pro Phe
65                  70                  75                  80
Ser Ser Arg Ser Ser Ala Asn Ser Ile Ser Thr Lys Ser Thr Asn Ser
                85                  90                  95
Ala Ser Ser Ser Glu Ile Met Ser Ile Leu Leu Arg Lys Thr Thr Met
            100                 105                 110
<210>1090
<211>82
<212>PRT
<213>Chlamydia trachomatis
<400>1090
Met Gly Gln Asp His Arg Arg Lys Phe Leu Lys Lys Val Ser Phe Ala
  1               5                  10                  15
Lys Lys Gln Ala Ala Phe Ala Gly Ser Phe Ile Glu Glu Ile Lys Lys
            20                  25                  30
Ile Glu Trp Val Asn Lys Arg Asp Leu Lys Arg Tyr Val Lys Ile Val
        35                  40                  45
Leu Met Asn Ile Phe Gly Xaa Gly Phe Ser Ile Tyr Cys Val Asp Leu
    50                  55                  60
Ala Leu Arg Lys Ser Leu Ser Leu Leu Gly Glu Val Thr Ser Phe Phe
65                  70                  75                  80
Phe Gly

<210>1091
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<211>101
<212>PRT
<213>Chlamydia trachomatis
<400>1091
Leu Cys Ser Ser Leu Thr Asn Tyr Ser Thr Ser Thr Pro Met Leu Arg
1 5 10 15
Ala Val Pro Ser Thr Ile Leu Ser Ala Asp Ser Lys Arg Thr Thr Ser
20 25 30
Met Ser Phe Ile Phe Cys Ser Ala Ile Ala Val Ile Cys Ala Arg Val
35 40 45
Asn Leu Pro Thr Leu Phe Leu Leu Gly Ile Leu Asp Pro Asp Ser Lys
50 55 60
Pro Lys Ala Phe Leu Ile Asn Glu Glu Thr Gly Asp Cys Phe Ile Thr
65 70 75 80
Lys Xaa Lys Val Leu Ser Glu Tyr Thr Val Ile Thr Thr Gly Ser Lys
85 90 95
Ser Pro Gly Arg Ser
100

<210>1092
<211>98
<212>PRT
<213>Chlamydia trachomatis
<400>1092
Leu Ser Asn Arg Ala Ser Thr Ala Ser Cys Asn Ile Arg Phe Ser Leu
1 5 10 15
Arg Thr Met Thr Ser Gly Val Phe Ser Arg Lys Ile Ala Phe Lys Arg
20 25 30
Leu Phe Arg Leu Ile Thr Leu Arg Tyr Arg Ser Phe Lys Ser Glu Val
35 40 45
Ala Lys Arg Pro Pro Ser Lys Gly Thr Lys Gly Arg Lys Ser Gly Gly
50 55 60
Thr Thr Gly Met Phe Phe Asn Thr Ile His Ser Gly Arg Phe Glu Glu
65 70 75 80
Asp Thr Lys Pro Ser Thr Ile Phe Arg Arg Leu Ala Ser Phe Ile Leu
85 90 95
Ala Cys

<210>1093
<211>130
<212>PRT
<213>Chlamydia trachomatis
<400>1093
Val Leu Asn Lys Lys Asp Val Met Glu Lys Lys Glu Gln Ala Leu Cys
1 5 10 15
Phe Ser Cys Pro Tyr Cys Cys Asp Gly Asn Val Ala Phe Ser Val Ile
20 25 30
Asp Leu Glu Asn Cys Leu Val Cys Asp Cys Cys Glu Ala Ser Phe Met
35 40 45
Phe Asp Ala Glu Met Cys Asp Ala Ile Arg Arg Phe Ser Ala Leu Cys
50 55 60
Leu Arg Ile Tyr Glu Ala Lys Ala Leu Leu Gly Glu Ala Ala Val Ser
65 70 75 80
Val Ser Val Gln Gly Gln Arg Ile Asp Val Pro Phe Gln Leu Leu Phe
85 90 95
Ser Arg Phe Pro Val Phe Leu Asn Leu Asn Leu Ala Gly Lys Leu Val
100 105 110
Arg Val Arg Phe Ile Phe Asp Ser Leu Arg Gly Glu Val Leu Tyr His
115 120 125
Arg Gly
130
<210>1094

<211>95
<212>PRT
<213>Chlamydia trachomatis
<400>1094
Asp Gln Arg Ser Leu Glu Ala Thr Ala Leu Leu Pro Asn Ser Leu Thr
1 5 10 15
Ser Leu Ile Thr Lys Ser Ala Gly Glu Gln Leu Leu Val Ser Arg Phe
20 25 30
Lys Thr Phe Asn Pro Ser Glu Ser Phe Arg Thr Phe Ser Glu Ser Leu
35 40 45
Ser Leu Leu Phe Asp Lys Asn Ser Thr Ala Pro Ile Ser Arg His Ala
50 55 60
Glu Lys Asn Ser Asp Phe Leu Arg Pro Ile Asn Arg Tyr Leu Ser Thr
65 70 75 80
Ser Thr Arg Met Gln Thr Thr Pro Tyr Ala Ala Glu Phe Phe Ser
85 90 95

<210>1095
<211>88
<212>PRT
<213>Chlamydia trachomatis
<400>1095
Leu Leu Ser Leu Pro Ile Val His Gly Leu Leu Trp Leu Gly Ile Phe
1 5 10 15
Gly Cys Lys Ser Lys Lys Lys Tyr Ser Ser Met Thr Val Ile Val Leu
20 25 30
Cys Cys Phe Ala Phe Pro Glu Lys Lys Leu Val Gly Gly Phe Ser Phe
35 40 45
Leu Glu Asn Ile Leu Arg Thr Phe Ser Thr Gly Gly Gln Glu Ile Gln
50 55 60
Gln Ser Phe Leu Gly Ser Pro Gln Arg Asp Phe Leu Thr Asn Ser Leu
65 70 75 80
Asp Phe Cys Ala Tyr Pro Thr Phe
85

<210>1096
<211>110
<212>PRT
<213>Chlamydia trachomatis
<400>1096
Ile Gly His Asn Ile Ser Ile Ile Cys Arg Ser Cys Ser Cys Glu Val
1 5 10 15
Ile Leu Trp Leu Leu Met Arg Leu Phe Gly Trp Ser Cys Gly Asn Ser
20 25 30
Phe Cys Ser Phe Leu Ile Ser Leu Arg Phe Leu Arg Leu Cys Phe Leu
35 40 45
Gly Phe Leu Lys Ser Gly Ser Leu Ser Cys Ser Ser Ile Tyr Arg Ile
50 55 60
Phe Ile Ala Phe Tyr Thr Cys Ser Gln Ser Phe Leu Arg Ile Ile Ala
65 70 75 80
Gln Cys Arg Ser Asn Thr Ser Val Ser Phe Lys Ile Leu Thr Tyr Arg
85 90 95
Thr Ser Arg Thr Pro Arg Phe Thr Ser Ser Leu Phe Phe Cys
100 105 110

<210>1097
<211>146
<212>PRT
<213>Chlamydia trachomatis
<400>1097
Leu Gly Glu Thr Ser Thr Val Ala Cys Leu Leu Gly Ala Gly Leu Leu
1 5 10 15
Leu Leu Thr Gly Ile Ala Ser Trp Arg Thr Met Leu Ser Phe Gly Leu
20 25 30

Ser Ala Phe Phe Phe Ala Trp Phe Phe Lys Ile Met Ser Ile Leu Thr
35 40 45
Thr Gly Asn Ala Gly Ala Trp Ala Pro Ala Lys Phe Phe Ile Pro Ala
50 55 60
Tyr Arg His Leu Cys Ile Gly Gly Leu Ala Phe Gly Leu Val Phe Met
65 70 75 80
Ala Thr Asp Pro Val Ser Ser Pro Ala Met Lys Leu Ala Lys Trp Leu
85 90 95
Tyr Gly Ala Phe Ile Gly Phe Leu Thr Ile Leu Ile Arg Leu Ile Asn
100 105 110
Pro Ala Tyr Pro Glu Gly Val Met Leu Ala Ile Leu Leu Gly Asn Val
115 120 125
Phe Ala Pro Leu Phe Asp Asn Ile Ala Leu Lys Gln Tyr Arg Gln Arg
130 135 140
Arg Ile
145

<210>1098
<211>142
<212>PRT
<213>Chlamydia trachomatis
<400>1098
Leu Asn Ile Gly Glu Ile Ser Ala Ile Cys Ser Thr Cys Ser Ala Leu
1 5 10 15
Ser Pro His Leu Ser Leu Tyr Leu Tyr Glu Leu Met Pro Glu Thr Leu
20 25 30
Ala Leu Tyr Arg Cys Ala Cys Leu Gly Asn Arg Ser Gly Glu Gln Ser
35 40 45
Phe Ser Lys Ala Ala Leu Arg Ala Leu Ile Leu Asn Gln Cys Ser Ile
50 55 60
Asp Arg Ile Ile Phe Ser Ser Lys Asp Ile Glu Arg Asn Ile Val Glu
65 70 75 80
Ser Ile Ala Arg Tyr Leu Lys Val Pro Cys Glu Lys Arg Ser Trp Tyr
85 90 95
Arg Lys Arg Lys Ala Leu Asp Ser Ala Glu Asn Ile Cys Ile Leu Ser
100 105 110
Thr Tyr Pro Phe Asn Arg Arg Val Arg Glu Glu Ile Phe Ser Gln Val
115 120 125
Pro Asp Asn Ala Ile Phe Met Ser Leu Phe Pro Leu Ala His
130 135 140

<210>1099
<211>106
<212>PRT
<213>Chlamydia trachomatis
<400>1099
Val Glu Ser Asn Phe Arg Met Gly Arg Arg Arg Thr Arg Arg Ala Pro
1 5 10 15
His Phe Trp Ile Phe Val Pro Ser Ser Arg Ala Leu Ser Glu Lys Leu
20 25 30
Ile Leu Phe Phe Glu Ala Leu Val Ile Leu Asp Pro Leu Ser Val Tyr
35 40 45
Asp Phe Gln Thr Leu Gly Gly Leu Tyr Leu Gln Ile Ser Glu Asn Thr
50 55 60
Lys Ala Leu Tyr Val Leu Asp Gln Ala Leu Arg Met Gln Gly Asp His
65 70 75 80
Leu Pro Ser Leu Leu Asn Lys Thr Lys Ala Leu Phe Cys Leu Gly Arg
85 90 95
Ile Glu Glu Ala Ser Ala Ile Xaa Pro Thr
100 105

<210>1100
<211>95
<212>PRT

<213>Chlamydia trachomatis
<400>1100
Met Asn Arg Tyr Arg Phe Ser Arg Leu Leu Val Cys Leu Ser Leu Leu
1 5 10 15
Cys Cys Ala Leu Tyr Arg Tyr Ile Asp Lys Gln Asn Asp Leu Thr Lys
20 25 30
Leu Arg Leu Glu Ile Pro Cys Leu Trp Ala Gln Leu Arg Gln Ile Glu
35 40 45
Gln Glu Asn Val Ala Leu Ser Phe Leu Leu Glu Lys Leu Glu Ser Pro
50 55 60
Glu His Leu Leu Gln Ile Ala Phe Leu Pro Glu Tyr Gln Tyr Leu Glu
65 70 75 80
Tyr Leu Ser Glu Glu Lys Ile Ser Val Leu Ala Tyr Glu Ser Pro
85 90 95

<210>1101
<211>110
<212>PRT
<213>Chlamydia trachomatis
<400>1101
Val Glu Leu Leu Pro His Glu Lys Gln Val Val Glu Tyr Glu Lys Thr
1 5 10 15
Ile Ala Glu Phe Lys Glu Lys Asn Lys Glu Asn Ser Leu Leu Ser Ser
20 25 30
Ser Glu Ile Gln Lys Leu Asp Lys Arg Leu Asp Arg Leu Lys Glu Lys
35 40 45
Ile Tyr Ser Asp Leu Thr Pro Trp Glu Arg Val Gln Ile Cys Arg His
50 55 60
Pro Ser Arg Pro Arg Thr Val Asn Tyr Ile Glu Gly Met Cys Glu Glu
65 70 75 80
Phe Val Glu Leu Cys Gly Asp Arg Thr Phe Arg Asp Asp Pro Ala Val
85 90 95
Val Gly Gly Ser Gln Arg Phe Xaa Asp Ser Val Ser Cys Leu
100 105 110

<210>1102
<211>91
<212>PRT
<213>Chlamydia trachomatis
<400>1102
Met Leu Ile Pro Ile Ala Glu Glu Ile Phe Phe Arg Gly Ile Leu Gln
1 5 10 15
Thr Phe Phe Lys Asn Thr Phe Ser Arg Ser Lys Ala Val Val Thr Ser
20 25 30
Ser Leu Ile Phe Ala Ile Thr His Ile Glu Ala Ser Leu Gly Ser Phe
35 40 45
Ile Phe Val Pro Thr Leu Phe Val Phe Ser Leu Cys Ala Gly Phe Ile
50 55 60
Tyr Glu Lys Val Arg His Ile Ala Ala Pro Val Thr Leu His Ile Leu
65 70 75 80
Phe Asn Ser Cys Gln Leu Ala Leu Leu Ser Leu
85 90

<210>1103
<211>154
<212>PRT
<213>Chlamydia trachomatis
<400>1103
Met Val Gly Leu Gly Leu Leu Leu Val Phe Val Gly Ile Ser Ile Phe
1 5 10 15
Leu Ala Asn Gly Phe Phe Val Trp Pro Lys Pro Glu Lys His Thr His
20 25 30
Leu Pro Phe Ser Leu Val Cys Leu Gly Ala Val Leu Leu Leu Leu Pro
35 40 45

Ala Leu Leu Pro Thr Gly Asp Pro Leu Ser Ser Ile Ser Lys Ala Ser
50 55 60
Phe His Gly Ile Phe Val Phe Ser Ala Phe Leu Phe Leu Leu Leu Gly
65 70 75 80
Leu Pro Ala Pro Ile Thr Gln Ser Ile Leu Tyr Ala Gly Arg Thr Thr
85 90 95
Ser Ser Thr Ser Trp Leu Leu Ala Ile Arg Ala Gly Ala Arg Met Trp
100 105 110
Val Ile Thr Ile Thr Ala Thr Gln Ile Leu Ala Arg Leu Leu Gln Leu
115 120 125
Val Leu Pro Leu Ile Leu Pro Lys Gln Leu Phe Gln Glu Gln Val Ile
130 135 140
Thr Glu Glu Ile Arg Glu Gln Pro Ile Asn
145 150

<210>1104
<211>98
<212>PRT
<213>Chlamydia trachomatis
<400>1104
Arg Val Ser Phe Pro Cys Thr Trp Lys Ile Thr Ile Pro Pro Leu Tyr
1 5 10 15
Ile Lys Lys Phe Asn Val Glu Ser Leu Ser Asp Val Asp Ala Ser Asn
20 25 30
Ile Tyr Ser Lys Thr Leu His His Phe Phe Leu Leu Ala Ile Gln Met
35 40 45
Ile Pro Thr Pro Arg Lys Thr Ile Gly Ile Asp Asn His Cys Pro Ile
50 55 60
Val Asn Met Phe Ser Ser Pro Ser His Ala Pro Trp Cys Val Leu Lys
65 70 75 80
Asn Ser Ala Gln Lys Arg Ile Thr Ala Thr Pro Ile Lys Ala Pro Ala
85 90 95
Ala Leu

<210>1105
<211>77
<212>PRT
<213>Chlamydia trachomatis
<400>1105
Tyr Ser Leu Arg Ser Ser Glu Ile Ser Ser Ser Arg Arg Pro Lys Met
1 5 10 15
Asn Ile Cys Ser Phe Pro Ile Cys Ser Ala Ile Ser Ile Leu Ala Pro
20 25 30
Ser Ile Val Pro Ile Val Lys Ala Pro Phe Lys Ala Asn Phe Ile Phe
35 40 45
Pro Val Pro Glu Ala Ser Ile Pro Ala Val Glu Ile Cys Ser Asp Lys
50 55 60
Ser Val Ala Gly Met Ile Ala Ser Ala Lys Glu Thr Leu
65 70 75

<210>1106
<211>157
<212>PRT
<213>Chlamydia trachomatis
<400>1106
Asn Ser Lys Arg Thr Asn Glu Thr Glu Gly His Ser Ser Ile Met Leu
1 5 10 15
Arg Asn Cys Pro Leu Phe Asn Ile Asn Val Phe Thr Arg Val Ile Ala
20 25 30
Ser Ala Glu Tyr Ser Arg Thr Leu Leu Leu Lys Lys Leu Ser Ser Pro
35 40 45
Lys Gln Ser Arg Gly Leu Ser Arg Thr Leu Ile Val Gly Ser Phe Ala
50 55 60

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Lys Ile Leu Thr His Pro Ser Ala Ile Thr Tyr Arg Leu Lys Leu Gly
 65                  70                  75                  80
Cys Pro Ser Glu Lys Ile Ser Glu Pro Ala Leu Lys Ser Met Thr Ser
                85                  90                  95
Asp Leu Ser Ala Ile Glu Ser Lys Thr Ser Met Ser Lys Asp Ala Asn
            100                 105                 110
Lys Xaa Val Phe Phe Arg Arg Lys Ala Leu Ser Ile Arg Phe Lys Glu
        115                 120                 125
Val Pro Pro Thr Lys Asp Leu Lys Leu Gly Thr Ser Tyr Val Phe Pro
    130                 135                 140
Gly Gln Tyr Arg Gly Phe Leu Phe Leu Ser Lys Ala Leu
145                 150                 155
<210>1107
<211>103
<212>PRT
<213>Chlamydia trachomatis
<400>1107
Leu Ser Lys Asn Phe Leu Ser Pro Ile Glu His Met Ile Arg Thr Thr
  1               5                  10                  15
Gly Ile Pro Val Thr Leu Val Arg Tyr Gly Ser Leu Phe Ser Phe Phe
            20                  25                  30
Phe Asn Pro Asn Arg Pro Asn Asn Leu Ala Asp Ala Gln Leu Ser Asp
        35                  40                  45
Ile Glu Ala Phe Gln Lys Phe Tyr Gln Ser Ala Phe Ser Lys Gly Val
    50                  55                  60
Tyr Leu Ser Pro Ser Pro Phe Glu Ala Ser Phe Leu Ser Ala Ala His
 65                  70                  75                  80
Ser Met Glu Ser Leu Asp Tyr Ala Gln Thr Ala Leu Ile Glu Ser Leu
                85                  90                  95
Glu Gln Val Phe Ser Leu Val
            100
<210>1108
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>1108
Asp Pro Val Lys Thr Pro Leu Leu Val Phe Ile Ser Leu Met Arg Ser
  1               5                  10                  15
Leu Ser Leu Leu Leu Cys Val Ser Leu Ile Tyr Cys Ala Thr Thr Ala
            20                  25                  30
Phe Cys Ser Ser Glu Val Arg Arg Ser Thr Lys Gly Cys Ser Gly Ala
        35                  40                  45
Lys Ala Lys Lys Glu Thr Pro Ile Lys Val Ser Gly Leu Val Val Lys
    50                  55                  60
Thr Ser Ile Ala Pro Cys Ser Val Ala Lys Leu Thr Glu Ala Pro Glu
 65                  70                  75                  80
Asp Phe Pro Ile Gln Phe Phe Cys Asn Cys Leu Thr Leu Ser Gly Gln
                85                  90                  95
Ser Ser Ser Ser Ser Pro Ser Arg Ser
            100                 105
<210>1109
<211>96
<212>PRT
<213>Chlamydia trachomatis
<400>1109
Val Leu Ile Lys His Ile Leu Pro Tyr Ala Leu Phe Pro Val Ile Ser
  1               5                  10                  15
Tyr Ser Ala Phe Leu Ile Thr Thr Leu Met Thr Gly Thr Phe Ser Ile
            20                  25                  30
Glu Asn Leu Phe Cys Ile Pro Gly Leu Gly Lys Trp Phe Ile Cys Ser
        35                  40                  45
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Ile Lys Gln Arg Asp Tyr Pro Ile Thr Leu Gly Leu Ser Val Phe Tyr
50 55 60
Gly Ala Phe Phe Met Leu Thr Ser Leu Cys Cys Asp Leu Leu Gln Ala
65 70 75 80
Trp Ile Asp Pro Gln Ile Arg Tyr Ser Tyr Gly Lys Glu Arg Ser Lys
85 90 95

<210>1110
<211>112
<212>PRT
<213>Chlamydia trachomatis
<400>1110
Leu Asp Phe Lys Thr Phe Met Ala Thr Thr Val Asn Pro Asn Tyr Ser
1 5 10 15
Leu Pro Phe Cys Glu Lys Met Val Ser Ser Ala Thr Leu Ala Ala His
20 25 30
Ser Phe Phe Asn His Leu Lys Leu Leu Ile Pro Leu Leu Val Gly Tyr
35 40 45
Phe Cys Thr Ile Ile Arg Ser Ser Asn Leu Asn Arg Cys Asp Tyr Asp
50 55 60
Tyr Thr Leu Tyr Cys Ser Lys Leu Leu Ser Phe Ser Gly Ser Tyr Phe
65 70 75 80
Gly Tyr Arg Arg Gly Gly Phe Met Arg Ser Phe Lys Arg Pro Leu Phe
85 90 95
Ser Val Thr Gln Ser Lys Gly Ser Thr Leu Leu His Ile Ser Cys Asp
100 105 110

<210>1111
<211>363
<212>PRT
<213>Chlamydia trachomatis
<400>1111
Met Val Ser Met Ser Leu Asn Leu Pro Pro Ala Glu Val Arg Leu Arg
1 5 10 15
Pro Val Thr Ala Lys Ser Phe Pro Asn Ser Ser Ala Trp Arg Ala Thr
20 25 30
Gln Lys Arg Ile Thr Gly Cys Ser Leu Asn Ala Ser Ser Tyr Arg Pro
35 40 45
Ser Ser Ala Arg Val Ile Ser Phe Val Val Gly Val Leu Val Val Leu
50 55 60
Gly Trp Ile Cys Cys Arg Ile Ala Tyr Leu Ala Asn Ser Arg Val Leu
65 70 75 80
Thr Phe Pro Lys Met Phe Ala Ile Ala Ile Leu Pro Phe Ile Leu Phe
85 90 95
Gly Gly Gly Leu Ala Ile Leu Phe Arg Ile Ala Gly Lys Val Asp Val
100 105 110
Leu Tyr Gly Lys Lys Ile Gln Pro Phe Ile Ser Arg Gln Trp Glu Arg
115 120 125
Val Ile Leu Cys Glu Lys Glu Gly Glu Phe Ile Arg Pro Ile Gln Glu
130 135 140
Pro Asp Met Tyr Met Asp Val Ser Leu Leu Asp Arg Thr Gly Ser Gly
145 150 155 160
Ile Ala Pro Val Tyr Thr Tyr Pro Pro Met Asp Ala Arg Thr Val Ile
165 170 175
Cys Val Val Thr Ser Ile Leu Leu Pro Ile Phe Ser Ile Val Arg Met
180 185 190
Leu Tyr Asn Ile Phe Arg Phe Phe Ile Val Pro Phe Tyr Ile Leu Phe
195 200 205
Gln Met Val Arg Gln Asn Tyr Gln Thr Asp Ile Pro Lys Glu Glu Arg
210 215 220
Phe Val Cys Ser Asp Ile Val Arg Glu Met Thr Arg Ser Leu Leu Gln
225 230 235 240
Ala Val Lys Ala Pro Phe Tyr Gly Ala Ala Cys Tyr Leu Ala Asn Leu

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                245                 250                 255
Tyr Gly Leu Leu Asn Pro Leu Ser Gly Arg Val Val Leu Ala Ser Leu
            260                 265                 270
Glu Arg Asp Trp Asn Asn Asp Val Ile Arg Ser Arg Gly Val Trp Gly
        275                 280                 285
Ile Phe Cys Glu Lys Asn Tyr Met Phe Glu Gly Gly Gly Thr Arg Ser
    290                 295                 300
Gly Leu Gly Gln Asn Ala Trp Tyr Leu Leu Gly Cys Phe Gln Pro Ala
305                 310                 315                 320
Gln Leu Phe Leu Leu Lys Asp Gly Val Ile Ile Ser Gly Ala Arg Pro
                325                 330                 335
Ser Ile Gln Ser Phe Pro Glu Ser Lys Glu Tyr Leu Ala Ser Phe Leu
            340                 345                 350
Tyr Gly Ala Val Pro Gly Arg Leu Ala Ser Phe
        355                 360
<210>1112
<211>100
<212>PRT
<213>Chlamydia trachomatis
<400>1112
Leu Asn Leu Gln Glu Gly Phe Ala Gly Met Leu Tyr Ala Leu Pro Glu
  1               5                  10                  15
Ser Gln Val Leu Tyr Leu Lys Ala Thr Ala Leu Gln Gly His Lys Ala
             20                  25                  30
Leu Glu Phe Trp Ile Ala Cys Asp Asp Val Tyr Phe Arg Gly Met Leu
         35                  40                  45
Val Ser Val Asn His Thr Leu Tyr Gln Val Phe Met Val Tyr Lys Gly
     50                  55                  60
Arg Ser Pro Glu Ile Leu Asp Lys Glu Tyr Ser Thr Phe Ile Gln Ser
 65                  70                  75                  80
Phe Lys Val Thr Lys Val Arg Asn Ser Lys Lys Met Asp Ile Arg Lys
                85                  90                  95
Arg Val Ser Leu
            100
<210>1113
<211>135
<212>PRT
<213>Chlamydia trachomatis
<400>1113
Val Ile Lys His Leu Arg Ser Tyr Cys Leu Tyr Leu Ala Trp Leu Phe
  1               5                  10                  15
Ser Cys Ile Gly Thr Leu Met Ser Val Tyr Tyr Ser Tyr Ile Leu Asn
             20                  25                  30
Val Glu Pro Cys Leu Leu Cys Tyr Tyr Gln Arg Ile Cys Leu Phe Pro
         35                  40                  45
Leu Val Val Ile Leu Gly Ile Ala Ala Tyr Arg Glu Asp Ile Ser Ile
     50                  55                  60
Lys Ile Tyr Thr Leu Pro Leu Ala Leu Val Gly Phe Gly Ile Ala Ile
 65                  70                  75                  80
Tyr Gln Val Cys Leu Gln Glu Ile Pro Gly Met Thr Leu Asp Ile Cys
                85                  90                  95
Gly Lys Val Ser Cys Ser Thr Lys Leu Phe Leu Leu Gly Phe Ile Thr
            100                 105                 110
Met Pro Met Ala Ser Ala Ala Ala Phe Cys Ala Ile Ala Cys Leu Leu
        115                 120                 125
Val Leu Ala Thr Lys Ser Lys
    130                 135
<210>1114
<211>96
<212>PRT
<213>Chlamydia trachomatis
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<400>1114
Thr Arg Thr Arg Trp Glu Ser Ser Glu Ile Cys Cys Asn Arg Gly Met
1 5 10 15
Ala Ser Gln Ile Lys Val Thr Ser Ala Gln Ser Gly His Ile Ser Tyr
20 25 30
Gln Arg Asn Pro Lys Gln Phe Asp Gln Ala Ile Leu Asp Met Leu Arg
35 40 45
Leu Phe Cys Leu Gly Tyr Phe Pro Gln Leu Phe Glu Lys Gln Lys Asn
50 55 60
Leu Leu Glu Asp Leu Ile Tyr Asn Lys Leu Phe Val Glu Lys Thr Val
65 70 75 80
Val Met Gly Glu Gly Ala Cys Val Val Asn Leu Ala Ile Gly Gly Gly
85 90 95

<210>1115
<211>87
<212>PRT
<213>Chlamydia trachomatis
<400>1115
Val Met Thr Ile Ser Ser Thr Thr Thr Pro Ser Lys Ser Ser Ser Cys
1 5 10 15
Phe Gln Phe Arg Glu Thr Asn Lys Glu Pro Val Lys Thr Tyr Arg Val
20 25 30
Thr Ser Ile Ala Leu Val Ala Ile Gly Leu Leu Leu Leu Met Ile Ser
35 40 45
Ser Leu Leu Leu Leu Leu Arg Val Pro Met Thr Met Pro Cys Leu Val
50 55 60
Ile Ser Ser Ser Cys Met Ser Cys Gly Val Val Leu Val Gly Ser Lys
65 70 75 80
Ile Glu Gly Ile Cys Phe Gly
85

<210>1116
<211>104
<212>PRT
<213>Chlamydia trachomatis
<400>1116
Lys Met Val Lys Lys Lys Phe Cys Val Ile Gln Lys His Leu Phe Pro
1 5 10 15
Ser Tyr Ser Pro Lys Leu Val Asp Ile Val Lys Arg Tyr Lys Arg Glu
20 25 30
Ala Lys Ile Leu Ile Asn Lys Leu Ala Phe Gly Met Leu Trp Arg His
35 40 45
Arg Ala Lys Ser Gln Ile Leu Thr Glu Gly Ser Val Arg Leu Asp Leu
50 55 60
Gln Gly Phe Thr Glu Ser Lys Tyr Asn Tyr Gln Ile Gln Val Gly Ser
65 70 75 80
His Thr Ile Ala Ala Val Leu Ile Asp Met Glu Tyr Phe Gln Asp Ser
85 90 95
Ile Gln Ile Arg Thr Ser Leu Met
100

<210>1117
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>1117
Arg Ser Leu Gln Ser Ala Arg Leu Val Trp Met Arg Val Arg Ser Glu
1 5 10 15
Thr Asn Phe Cys Phe Cys Ala Arg Val Ser Ser Ala Glu Val Cys Thr
20 25 30
Ala Asp Ala Pro His Leu Gly Ser Arg Ile Asn Ala Cys Asn Phe Ser
35 40 45
Thr Ala Asp Cys Thr Pro Arg Lys Asp Cys Leu Gly Cys Lys Asp Ile

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     50                  55                  60
Ala Arg Leu Ser Ser Leu Arg Lys Val Phe Pro Ser Leu Ile Ala Leu
 65                  70                  75                  80
Cys Thr Pro Ser Thr Asn Gly Val Thr Pro Pro Ala Ala Leu Pro Ile
                 85                  90                  95
Cys Lys Ile Val Ser Ile Lys Ser Arg
            100                 105
<210>1118
<211>111
<212>PRT
<213>Chlamydia trachomatis
<400>1118
Leu Phe Arg Leu Ser Val Phe Met Arg Lys Asn Gly Asp Trp Leu Asp
  1               5                  10                  15
Asn Gly Ala Gly Gly Arg Val Met Leu Tyr Val Asn Thr Lys Asn Ser
            20                  25                  30
Ala Gly Lys Thr Met Arg Arg Leu Leu Gly Ile Ala Val Cys Leu Gly
        35                  40                  45
Ser Thr Trp Tyr Thr Thr Val Pro Met Phe Trp Cys Ala Ala Thr Tyr
     50                  55                  60
Tyr Ala Thr Ser Ser Gly Phe Phe Gln Leu Ile Val Gly Glu Arg Asn
 65                  70                  75                  80
Phe Arg Phe Leu Leu Ser Leu Gly Val Trp Phe Gly Tyr Leu Leu Phe
                 85                  90                  95
Leu Asn Gly Ala Leu Phe Tyr Leu His Arg Leu Ala Cys Phe Ser
            100                 105                 110
<210>1119
<211>106
<212>PRT
<213>Chlamydia trachomatis
<400>1119
Glu Ser Thr Asp Trp Arg Asn Ser Phe Val Lys Pro Ser Val Glu Ala
  1               5                  10                  15
Pro Ala Ala Gly Glu Ala Val Ile Glu Asn Leu Asn Phe Pro Ser Gly
            20                  25                  30
Val Trp Arg Ala Val Arg Ala Cys Xaa Phe Lys Gln His Cys Leu Tyr
        35                  40                  45
Phe Phe Pro Asp Pro Gln Gly Gln Gly Ser Phe Leu Leu Gly Phe Phe
     50                  55                  60
Asn Ile Asn Ser Phe Leu Ser Leu Leu Ile Arg Lys Ile Asn Tyr Lys
 65                  70                  75                  80
Glu Pro Ser Leu Gln Pro Gln Phe Leu Gln Gly Thr His Arg Phe Leu
                 85                  90                  95
Val Ala Arg Gly Ala Arg Ala Arg Gly Tyr
            100                 105
<210>1120
<211>84
<212>PRT
<213>Chlamydia trachomatis
<400>1120
Gly Ile Trp Leu Ala Glu Lys Thr Phe Ala Arg Thr Gly Leu Trp Ile
  1               5                  10                  15
Arg Ser Ala Cys Ser Val Ala Leu Ser Gln Ser Ile Asp Thr Val Ile
            20                  25                  30
Phe Ser Phe Leu Gly Leu Tyr Gly Leu Val Ala Asn Leu Pro Asp Val
        35                  40                  45
Met Met Phe Ser Leu Leu Ser Lys Gly Thr Ala Leu Leu Leu Ala Ser
     50                  55                  60
Pro Cys Val Ala Leu Ala Lys Val Phe Tyr Asn Arg Leu Asn Lys Glu
 65                  70                  75                  80
Glu Ala His Phe
```

<210>1121
<211>132
<212>PRT
<213>Chlamydia trachomatis
<400>1121
Met Asn Ile Phe Val Leu Lys Gln Ile Val Leu Phe Gly Phe Glu Val
1 5 10 15
Thr Ala Ala Asp Val Tyr Val Ile Gly Leu Phe Ser Cys Leu Asn Cys
20 25 30
Ala Arg Glu Phe Trp Gly Lys Glu Ser Thr Lys Lys Val Ile Phe Val
35 40 45
Ser Trp Cys Ser Thr Leu Ser Phe Leu Ile Leu Thr Gln Leu His Leu
50 55 60
His Leu Lys Pro Ser Pro Gly Asp Ile Ser Gln Leu His Tyr Glu Ala
65 70 75 80
Leu Phe Ala Pro Ser Leu Arg Ile Ile Ser Ala Ser Val Ile Thr Thr
85 90 95
Met Ile Val Gln Phe Val Asp Phe Lys Val Phe Gly Trp Leu Lys Lys
100 105 110
His Ser Arg Gly Arg Val Phe Gly Phe Val Pro His Ala Pro Leu Arg
115 120 125
Phe Leu Lys Ala
130
<210>1122
<211>125
<212>PRT
<213>Chlamydia trachomatis
<400>1122
Met Leu Arg Pro Pro Ser Phe Leu Lys Lys Leu Leu Ser Ser Val Arg
1 5 10 15
Asn Asn Phe Ile Ile Lys Ser Ile Leu Lys Ala Pro Lys Val Leu Tyr
20 25 30
His Asn Gly Ala Ser Lys Glu Ala Cys Val Leu Ser Tyr Tyr Gly Leu
35 40 45
Phe Ser Cys Val Pro Ile Leu Val Phe Phe Leu Arg Leu Ser Gln Tyr
50 55 60
Leu Phe Ile Ser Leu Asp Trp Lys Glu Trp Leu Leu Leu His Phe Pro
65 70 75 80
Asp Tyr Lys Ala Pro Ile Leu Ala Ile Ile Glu Ala Ala Tyr Ser Thr
85 90 95
Thr Ser Asn Ile Gly Val Val Leu Val Ser Ser Phe Phe Val Phe Cys
100 105 110
Trp Ala Gly Ile Leu Met Leu Gln Ser Leu Glu Val Gly
115 120 125
<210>1123
<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>1123
Met Thr Thr Ala Thr Thr Ser Gln Thr Ala Leu Arg Ser Arg Lys Asp
1 5 10 15
Val Pro Leu Ser Asp Cys Trp Asp Thr Lys Ser Leu Tyr Ala Ser Arg
20 25 30
Glu Val Trp Gln Asp Glu Leu Lys Lys Val Gly Ala Glu Gly Ala Pro
35 40 45
Phe Trp Pro His Leu Ser Glu Asn Asn Phe Asp Ile Lys Gln Pro Ser
50 55 60
Ser Leu Arg Glu Leu Leu Thr Thr Val Phe Ser Ile Glu Arg Thr Leu
65 70 75 80
Asp Lys Leu Tyr Val

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85

<210>1124
<211>162
<212>PRT
<213>Chlamydia trachomatis
<400>1124
Met Ile Ser Met Ile Pro Arg Phe Ser Ile Ala Cys Ile Pro Leu Ala
1 5 10 15
Val Trp Leu Phe Ser Gly Ala Lys Met Leu Val Lys Ser Leu Tyr Leu
20 25 30
Ala Leu His Tyr Gln Phe Ser Leu Val Leu Ser Ala Glu Leu Phe Ala
35 40 45
Ile Ala Trp Ile Leu Ala Ser Ile Lys His Arg Phe Ile Leu Arg Lys
50 55 60
Ser Met Leu Lys Gln His Glu Leu Asp Ala Gln Leu Leu Ile Lys Glu
65 70 75 80
Ile Ser Pro Trp Thr Phe Ile Lys Arg Ser Phe Leu Ser Lys Arg Met
85 90 95
Phe Val Ile Ile Ser Met Ser Val Ile Ser Ser Leu Leu His Arg Ser
100 105 110
Thr Thr Ile Pro Leu Leu Ser Phe Leu Met Cys Ser Ser Val Ser Tyr
115 120 125
Ala Leu Phe Lys Thr Ser Leu Ala His Trp Lys Ser Leu Lys Glu Leu
130 135 140
Lys Ser Lys Tyr Ser Val Tyr Tyr Tyr Leu Ile Thr Leu Gln Leu Pro
145 150 155 160
Gln Pro

<210>1125
<211>75
<212>PRT
<213>Chlamydia trachomatis
<400>1125
Leu Gly Glu His Pro Pro Met His Arg Lys Leu Met His Gln Lys Thr
1 5 10 15
Met Ala Ile Asp Gly Glu Leu Ala Trp Ile Gly Ser Ala Asn Phe Thr
20 25 30
Leu Ala Ser Leu Glu Lys Ser Ala Asn Leu Ile Ile Gly Leu Lys Ser
35 40 45
Ala Glu Ile Cys His Phe Ile Lys Thr Gln Thr Ser Gly Arg Cys Phe
50 55 60
Ile Asn Asn Gln Leu Ile Glu Tyr Cys Phe Leu
65 70 75
<210>1126
<211>147
<212>PRT
<213>Chlamydia trachomatis
<400>1126
Leu Val Ser Phe Leu Leu Phe Pro Arg Tyr Phe Pro Glu Trp Arg Pro
1 5 10 15
Val Tyr Phe Ala Pro Leu Ile Val Thr Thr Phe Tyr Ser Gln Pro Lys
20 25 30
Glu Arg Val Leu Leu Trp Ala Met Leu Ser Gly Leu Leu Cys Asp Met
35 40 45
Gly Ser Thr Cys Phe Met Gly Ile Gln Ala Phe Leu Tyr Val Ser Thr
50 55 60
Ser Leu Ile Leu Tyr Lys Thr Gln Arg Phe Phe Ile Lys Glu Arg Trp
65 70 75 80
Ile Ser Phe Pro Leu Ile Ser Ala Leu Phe Ser Leu Thr Phe Tyr Phe
85 90 95
Leu Ser Tyr Pro Val Leu Ala Phe Phe Asn Arg Pro Leu Cys Leu Tyr

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            100                 105                 110
Asn Thr Ala Leu Leu Ala Asp Leu Gln His Val Leu Met Val Asp Leu
        115                 120                 125
Pro Tyr Gly Ala Leu Leu Ser Leu Leu Ala His Lys Lys Ser Phe Thr
    130                 135                 140
Pro Gln Ile
145
<210>1127
<211>130
<212>PRT
<213>Chlamydia trachomatis
<400>1127
Leu Cys Ser Ile Leu Ser Lys Leu Leu Arg Arg Met Gly Arg Arg Asn
  1               5                  10                  15
Gln Asn Gln Arg Glu Thr Ser Phe Arg Lys Ile Leu Ala Val Ala Ser
            20                  25                  30
Ser Ala Thr Pro Glu Ile Leu His Leu His Asp His Ala Ile Ala Thr
        35                  40                  45
Ser Gly Ser Gln Tyr Gln Arg Trp His Val Asp Asn Lys Thr Tyr Thr
    50                  55                  60
His Ile Leu Asp Pro Leu Thr Gly Thr Pro Leu Glu Asp Ser Ser His
65                  70                  75                  80
Pro Ile Leu Ala Val Ser Val Ile Asn Glu Ser Cys Ala Phe Ala Asp
                85                  90                  95
Ala Met Ala Thr Ala Leu Thr Thr Phe Ser Ser Lys Gln Glu Ala Leu
            100                 105                 110
Asp Trp Ala Asn Lys Lys His Leu Cys Ala Tyr Ile Thr Asp Lys Asn
        115                 120                 125
Val Ser
    130
<210>1128
<211>92
<212>PRT
<213>Chlamydia trachomatis
<400>1128
Ile Pro Ala Asn Thr Thr Gly Leu Ile Ser Leu Lys Pro Ser Lys Gly
  1               5                  10                  15
Ser Leu Ala Gly Cys Leu Thr Val Val Thr Val Ser Pro Ile Phe Thr
            20                  25                  30
Ser Phe Thr Phe Phe Arg Leu Ala Met Lys Tyr Pro Thr Cys Pro Ala
        35                  40                  45
Arg Lys Asp Pro Ser Met Arg Val Ala Ser Gly Lys Lys Ala Pro Ile
    50                  55                  60
Pro Lys Thr Ser Lys Glu Glu Pro Leu Val Ala Met Lys Val Met Arg
65                  70                  75                  80
Ser Pro Phe Leu Ile Ser Pro Leu Ile Thr Arg Thr
                85                  90
<210>1129
<211>151
<212>PRT
<213>Chlamydia trachomatis
<400>1129
Met Gln Asn Ile Leu Arg Thr Ser Ser Cys Arg Tyr Met Phe Leu Leu
  1               5                  10                  15
Gly Ile Arg Ser Val Trp Asn Arg Val Ala Val Val Asn Asn Phe Arg
            20                  25                  30
Gly Ser Ser Trp Lys Ile Val Ala Ile Pro Ser Cys Ile Leu Phe Thr
        35                  40                  45
Leu Ile Phe His Leu Pro Arg Trp Leu Ile Asp Phe Gly Val Cys Thr
    50                  55                  60
Asn Leu Ala Cys Ser Leu Ser Ile Ile Phe Trp Val Phe Ser Leu Arg
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 65                  70                  75                  80
Ser Ser Ala Ser Ala Arg Ile Phe Pro Ser Leu Leu Leu Tyr Leu Cys
                85                  90                  95
Leu Leu Arg Leu Gly Leu Asn Leu Ala Ser Thr Arg Trp Ile Leu Ser
            100                 105                 110
Ser Gly Trp Ala Ser Pro Leu Ile Phe Ala Leu Gly Asn Phe Phe Ser
        115                 120                 125
Leu Gly Ser Ile Pro Val Gly Ser Tyr Gly Met Phe Thr Pro Val Phe
    130                 135                 140
Ser Glu Phe Ser Arg His Asn
145                 150
<210>1130
<211>165
<212>PRT
<213>Chlamydia trachomatis
<400>1130
Leu Ala Leu Arg Gly Phe Pro Val Ser Ile Ile Glu Gln Asp Tyr Leu
  1               5                  10                  15
Arg Met Lys Ser Glu Arg Leu Lys Lys Leu Glu Ser Glu Leu His Asp
            20                  25                  30
Leu Thr Gln Trp Met Gln Leu Gly Leu Val Pro Lys Lys Glu Ile Glu
        35                  40                  45
Arg His Gln Glu Glu Ile Arg Leu Leu Glu Ser Lys Ile Leu Glu Glu
    50                  55                  60
Lys Glu Arg Leu Gln Leu Leu Lys Glu Ser Gly Glu Ile Lys Glu Tyr
 65                  70                  75                  80
Val Thr Pro Arg Arg Thr Pro Ala Lys Thr Ile Tyr Pro Asp Gly Pro
                85                  90                  95
Ser Val Ser Asp Val Glu Phe Val Glu Ser Ser Asp Thr Glu Val Asp
            100                 105                 110
Leu Asp Ala Gly Asp Thr Ile Glu Ile Asp Leu Gly Asp Glu Ala Arg
        115                 120                 125
Glu Glu Ser Gly Asn Glu Leu Asp Tyr Ser Ser Glu Asp Asp Glu Asp
    130                 135                 140
Pro Phe Ser Asp Arg Asn Arg Trp Arg Arg Gly Gly Ile Ile Asp Pro
145                 150                 155                 160
Asp Ala Asn Glu Trp
                165
<210>1131
<211>78
<212>PRT
<213>Chlamydia trachomatis
<400>1131
Met Glu Glu Leu Pro Pro Asn Glu Arg Ile Lys Glu Thr Leu Ala Leu
  1               5                  10                  15
Arg Leu Arg Leu Cys Asp Pro Ile Pro Phe Gly Val Phe Pro Gln Glu
            20                  25                  30
Leu Val Asp Glu Ile Leu Met His Pro Ser Ile Gly Ser Leu Phe Thr
        35                  40                  45
Lys Asp Asp Lys Ala Phe Ser Leu Asn Lys Lys Gly Arg Leu Phe His
    50                  55                  60
Asp Ser Ile Ala Glu Glu Ile Met Ala Ser Ser Phe Ser Phe
 65                  70                  75
<210>1132
<211>174
<212>PRT
<213>Chlamydia trachomatis
<400>1132
Val Val Asp Ala Tyr Arg Ile Cys Ile Leu Leu Val Trp Leu Ala Gly
  1               5                  10                  15
Ala Leu Leu Val Pro Asp Asp Asp Val Gly Phe Ser Ser Cys Glu Ser
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                20                  25                  30
Pro Pro Asp Pro Glu Leu Pro Pro Glu Leu Leu Leu Phe Gly Leu Thr
            35                  40                  45
Tyr Phe Ser Phe Asn Thr Asp Pro Val Ala Cys Thr Gly Ile Cys Ser
        50                  55                  60
Val Gln Asp Cys Pro Glu Ala Ser Glu Asn Phe Leu Val Ile Gly Ser
65                  70                  75                  80
Gly Val Val Gly Val Val Gly Val Gly Asp Gly Val Ala Asp Arg Leu
                85                  90                  95
Tyr Phe Leu Glu Lys Val Phe Val Ile Asp Ala Val Val Gly Pro Leu
            100                 105                 110
Val Ala Gly Asp Asp Val Ala Ser Glu Val Val Phe Phe Gly Glu Asp
        115                 120                 125
Asp Gly Asp Leu Gly Val Val Ser Val Phe Gly Gly Val Thr Val Ser
    130                 135                 140
Ser Arg Glu Ile Gly Ser Val Asp Val Gly Val Val Leu Phe Gly Trp
145                 150                 155                 160
Phe Gln Val Pro Cys Met Glu Lys Val Arg Ile Pro Val Phe
                165                 170
```

<210>1133
<211>108
<212>PRT
<213>Chlamydia trachomatis
<400>1133

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Tyr His Ala Thr Asn Ala Ser Arg Gly Trp Arg Arg Asn Ser Thr Ser
  1               5                  10                  15
Ser Ser Arg Asn Pro Cys Ile Lys Val Leu Leu Ser Tyr Asn Lys Arg
            20                  25                  30
Lys Arg Val Phe Phe Leu Leu Cys Leu Ser Pro Pro Pro Leu Leu Phe
        35                  40                  45
Ile Ser Ser Val Arg Phe Leu Leu Asn Leu Leu Val Leu Val Phe Met
    50                  55                  60
Glu Ser Leu Ser Val Arg Ser Thr Ile Pro Leu Pro Leu Gly Ala Lys
65                  70                  75                  80
Lys Leu Ser Ala Asp Arg Tyr Arg Phe Ser Leu Phe Ser Ser Gln Ala
                85                  90                  95
Gln Gln Val Thr Leu Val Leu Leu Asp Pro Pro Phe
            100                 105
```

<210>1134
<211>114
<212>PRT
<213>Chlamydia trachomatis
<400>1134

```
Met Ala Ser Lys Lys Gln Thr Ser Trp Phe Arg Tyr Met Glu Glu Cys
  1               5                  10                  15
Val Ile Arg Ser Trp Trp Leu Ile Leu Cys Leu Leu Gly Gly Gly Phe
            20                  25                  30
Val Tyr Asp Arg Ala Ile Ser Gln Leu Cys Thr Gln Glu Leu Arg Leu
        35                  40                  45
Gln Gln Arg Met Phe His Leu Lys Ser His Leu Lys Glu Ala Leu Glu
    50                  55                  60
Lys Gln Gln Glu Leu Ser Thr His Leu Ala Ser Trp Asp Asp Pro Lys
65                  70                  75                  80
Val Ile Glu Leu Ala Leu Ile His Lys Leu Gly Leu Val Pro Lys Gly
                85                  90                  95
Tyr Glu Lys Ile Cys Phe Gln Asn Ser Gln Lys Thr Lys Arg Asn His
            100                 105                 110
Arg Lys
```

<210>1135
<211>240

<212>PRT
<213>Chlamydia trachomatis
<400>1135
Leu Val Ala Glu Lys Ile Thr Thr Lys Ala Phe Val Ile Phe Ser Val
1 5 10 15
Leu Phe Ser Leu Ile Ile Gly Phe Ile Ala Ser Cys Gly Phe Leu Phe
20 25 30
Ala Gly Pro Pro Ala Phe Ile Ala Ser Gly Leu Cys Phe Ala Leu Leu
35 40 45
Val Ser Val Val Ser Phe Phe Gly Cys Gln Lys Leu Ile Pro Tyr Gly
50 55 60
Ile Gln His Leu Met Ser Tyr Val Lys Ser Ile Pro Ser Leu Ser Ser
65 70 75 80
Ser Leu Ile Asp Phe Leu Lys Thr Glu Ser Lys Ser Ile Ser Ser Leu
85 90 95
Tyr Pro Asn Pro Gly Leu Lys Glu Cys Phe Lys Gly Ala Ser Pro Lys
100 105 110
Tyr Lys Lys Phe Phe Phe Asp His Pro Glu Lys Leu Leu Ser Ala Ala
115 120 125
Phe Thr Asp Trp Thr Pro Gln Ile Ile Pro Ser Asp Ser Gly Gln Pro
130 135 140
Arg Thr Ile Ile Leu Ser His Ser Ser Leu Pro Phe Ser Leu Thr Leu
145 150 155 160
Ser Thr Leu Asp Phe Glu Thr Leu His Thr Tyr Xaa Ile Lys Ser Asn
165 170 175
Ala Leu Thr Cys Arg Val Gly Tyr Ala His Gln Leu Pro Ser Gly Asn
180 185 190
Pro Val Met Arg Glu Xaa Lys Lys Glu Phe Tyr Asn Asn Ile Met Ile
195 200 205
Gln Glu Met Lys Pro Ser Ser Phe Leu Phe Arg Lys Ala Ser Ser Cys
210 215 220
Asn Lys Lys Ser Ser Leu Lys Asn Ser Leu Val Thr Met His Arg Ser
225 230 235 240
<210>1136
<211>81
<212>PRT
<213>Chlamydia trachomatis
<400>1136
Leu Leu His Lys Gly Asp Thr Cys Ala His Arg Xaa Pro Thr Lys Arg
1 5 10 15
Ala Ala Xaa Ser Pro Pro Val Pro Ala Arg Asn Ser Ile Ile Thr Leu
20 25 30
Arg Ser Ser Ser Gly Ser Gly Gly Ile Ser Arg Phe Ser Asn Cys Phe
35 40 45
Asp Arg Arg Ser Thr Ala Ser Ser Pro Thr Arg Thr Pro Ser Ser Ser
50 55 60
Ile Ala Thr Ile Ser Gly Ser Phe Ser Val Asp Xaa Ala Ser Leu Ser
65 70 75 80
Ser

<210>1137
<211>138
<212>PRT
<213>Chlamydia trachomatis
<400>1137
Leu Ala Phe Phe Ile Ser Tyr Pro Ser Ala Glu Ala His Ser Pro Leu
1 5 10 15
Gln Ser Ser Ile Gln Glu Lys Ile Leu Thr Ala Arg Pro Gly Asp Tyr
20 25 30
Ala Val Leu Ser Arg Gly Ser Gln Lys Phe Phe Phe Leu Ile Arg Gln
35 40 45

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```
Ser Ser Ser Glu Ala Thr Trp Val Glu Val Ser Glu Phe Ala Ser Leu
     50                  55                  60
Thr Gln Gln Glu Lys Lys Leu Val Glu Gln Ser Ser Trp Lys Asn Ala
 65                  70                  75                  80
Phe His Gln Leu Gln Ser Ser Lys Lys Val Tyr Leu Leu Arg Ile Ser
                 85                  90                  95
Lys Asn Pro Leu Met Ile Phe Val Leu Lys Asn Ala Gln Trp Met Pro
            100                 105                 110
Leu Ser Glu Lys Asp Pro Leu Pro Phe Phe Val Lys Ile Leu Arg Thr
        115                 120                 125
Pro Phe Ile Ser Ser Pro Leu Ser Leu Asn
    130                 135
<210>1138
<211>171
<212>PRT
<213>Chlamydia trachomatis
<400>1138
Leu Glu Arg Arg Met Gly Phe Ser Arg Gly Ile Gly Tyr Glu Lys Cys
  1               5                  10                  15
Gln Glu Lys Asn Lys Asn Phe Lys Lys Val Leu Glu Gly Ala Phe Phe
            20                  25                  30
Leu Ala Phe Phe Ile Lys Met Phe Gly Tyr Gly Ser Pro Phe Cys Tyr
        35                  40                  45
Val Arg Phe Ser His Thr Lys Ile Val Ile Leu Gly Leu Ser Asn Gly
     50                  55                  60
Lys Lys Thr Leu Ile Pro Glu Tyr Arg Gln Val Leu Phe Val Asp Ser
 65                  70                  75                  80
Ser Thr Gly Tyr Lys Phe Val Cys Gly Ser Thr Tyr Gln Thr Asp Lys
                 85                  90                  95
Thr Glu Val Phe Glu Gly Gln Glu Tyr Pro Val Cys Tyr Val Ser Ile
            100                 105                 110
Ser Ser Ser Ser His Pro Phe Phe Thr Gly Ser Lys Lys Leu Val Asp
        115                 120                 125
Ala Glu Gly Arg Val Asp Lys Phe Leu Lys Arg Tyr Ser Gly Ile Lys
    130                 135                 140
Gln Ser Ala Pro Lys Pro Glu Thr Val Val Glu Asp Val Leu Pro Lys
145                 150                 155                 160
Gly Lys Lys Lys Ser Pro Ala Lys Lys Lys Lys
                165                 170
<210>1139
<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>1139
Met Leu Arg Ser Leu Ile Ala Met His Phe Ser Ile Lys Gly Thr Cys
  1               5                  10                  15
Ser Leu Trp Ile Leu Gln Phe Leu Leu Ile Ala Ile Leu Pro Tyr Arg
            20                  25                  30
Asn Ser Leu Cys Leu Lys Arg Lys Lys Asn Phe Asn His Leu Lys Thr
        35                  40                  45
Asn Leu Thr Ser His Leu Leu Thr Glu Val Leu Leu Gln Asn Leu Gln
     50                  55                  60
Arg Asn Leu Phe Pro Leu Leu Leu Ile Ser Val Leu Lys Phe Arg Lys
 65                  70                  75                  80
Ala Thr Cys Leu Ser
                 85
<210>1140
<211>94
<212>PRT
<213>Chlamydia trachomatis
<400>1140
```

```
Thr Gly Thr Ala Cys Phe Lys Thr Leu Arg Ser Thr Ser Ile Met Arg
 1               5                  10                  15
Leu Pro Ser Arg Ser Ile Thr Ala Arg Ala Ser Lys Lys Phe Ser Leu
            20                  25                  30
Gln Ser Ser Cys Ser Pro Ser Arg Asn Pro Leu Gly Thr Pro Ile Asn
        35                  40                  45
Leu Gly Thr Ser Asn Asp Lys Ala Cys Glu Asn Val Pro Leu Lys Lys
    50                  55                  60
Ser Leu Val Val Glu Ser Leu Gly Ser Arg Pro Ala Lys Ala Ser Ile
65                  70                  75                  80
Ala Arg Ala Thr Ser Ser Thr Thr Val Val Asn Gly Pro Ile
                85                  90
```

<210>1141
<211>80
<212>PRT
<213>Chlamydia trachomatis
<400>1141

```
Met Arg Pro Asp His Met Asn Phe Cys Cys Leu Cys Ala Ala Ile Leu
 1               5                  10                  15
Ser Ser Thr Ala Val Leu Phe Gly Gln Asp Pro Leu Gly Glu Thr Ala
            20                  25                  30
Leu Leu Thr Lys Asn Pro Asn His Val Val Cys Thr Phe Phe Glu Asp
        35                  40                  45
Cys Thr Met Glu Ser Leu Phe Pro Ala Leu Cys Ala His Ala Ser Gln
    50                  55                  60
Asp Asp Pro Phe Val Cys Thr Trp Lys Phe Leu Leu Leu Val Arg Ile
65                  70                  75                  80
```

<210>1142
<211>102
<212>PRT
<213>Chlamydia trachomatis
<400>1142

```
Ala Asn Ser Pro Met Leu Ser Pro Thr Asn Ser Thr Ser Lys Thr Ala
 1               5                  10                  15
Pro Val Pro Pro Arg Asp Ser Ser Lys Pro Val Leu Ile Ser Glu Glu
            20                  25                  30
Pro Arg Asn Gln Leu Leu Gln Lys Val Ala Arg Thr Ala Leu Ala Val
        35                  40                  45
Leu Leu Val Val Val Thr Leu Gly Leu Ile Leu Leu Phe Tyr Ser Phe
    50                  55                  60
Ser Asp Leu Gln Ser Phe Pro Trp Cys Cys Gln Thr His Pro Ser Thr
65                  70                  75                  80
Lys Glu Gln Pro Thr Ile Ser Ile Pro Val Pro Leu Pro Ser Pro Pro
                85                  90                  95
Leu Ala Val Pro Arg Pro
            100
```

<210>1143
<211>172
<212>PRT
<213>Chlamydia trachomatis
<400>1143

```
Met Arg His Leu Ala Tyr Leu Leu Asp Lys Ile Ala Arg Ser Tyr Pro
 1               5                  10                  15
His Met Cys Pro Xaa Pro Asp Asn Met Glu Ala Tyr Xaa Glu Xaa Xaa
            20                  25                  30
Ile Pro Asn Lys Asp Ile Pro Leu Asp Thr Tyr Gln Lys Ile Phe Lys
        35                  40                  45
Leu Ser Ser Glu Asp Leu Glu Gln Val Tyr Lys Glu Gly Tyr Asn Ala
    50                  55                  60
Tyr Leu Gln Gly Asp Tyr Glu Glu Ser Ser Thr Ala Phe Tyr Trp Leu
65                  70                  75                  80
```

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```
Ile Phe Phe Asn Pro Phe Val Ser Lys Phe Trp Phe Ser Phe Arg Ser
                85                  90                  95
Ser Leu His Met Arg Gln Lys Tyr Gln Gln Ala Leu His Ala Tyr Gly
            100                 105                 110
Val Ala Ala Leu Leu Arg Glu Lys Asp Pro Tyr Pro His Tyr Tyr Ala
        115                 120                 125
Tyr Ile Cys Tyr Thr Leu Leu Asn Asn Pro Glu Glu Ala Glu Lys Ala
    130                 135                 140
Leu Asp Leu Ala Trp Gln Lys Val Lys Thr Ser Ser Ala Tyr Ser Ser
145                 150                 155                 160
Leu Lys Glu Glu Ile Leu Ala Ile Lys Ser Tyr Ala
                165                 170
```

<210>1144
<211>91
<212>PRT
<213>Chlamydia trachomatis
<400>1144

```
Gly Leu Leu Pro Thr Thr Cys Cys Phe Ser Asn Asp Ile Glu Lys Ser
  1               5                  10                  15
Phe Ser Thr Tyr Phe Pro Asn Asp Arg Gly Asp Thr Ser Glu Asn Thr
            20                  25                  30
Gln Gly Ser Cys Ser Asn Ala Lys Pro Phe Cys Asn Ser Ser Leu Phe
        35                  40                  45
Cys Lys Gly Val Arg Asp Phe Leu Arg Phe Leu His Glu Val Cys Ser
    50                  55                  60
Gly Arg Ser Ala Phe Lys Lys Ile Leu Phe Thr Ala Val Glu His Gln
65                  70                  75                  80
Phe His Asp Phe Arg Ala Asp Thr Gln Asn Ile
                85                  90
```

<210>1145
<211>198
<212>PRT
<213>Chlamydia trachomatis
<400>1145

```
Met Lys Lys Phe Ile Ser Tyr Leu Leu Ile Ile Leu Pro Leu Ile Gly
  1               5                  10                  15
Leu Trp Glu Phe Cys Ala Gln Asn Tyr Pro Ser Phe Gly Phe Ile Cys
            20                  25                  30
Pro Pro Pro Ser Lys Val Leu Thr Thr Gly Ile His Ser Phe Pro Val
        35                  40                  45
Leu Phe Gln His Ser Cys Tyr Thr Ala Gln Gly Ile Leu Gly Gly Phe
    50                  55                  60
Phe Leu Ala Leu Leu Leu Ala Ile Leu Phe Ser Ala Thr Met Leu Leu
65                  70                  75                  80
Phe Pro Ser Thr Gln Gly Leu Leu His Pro Leu Cys Val Leu Val Gln
                85                  90                  95
Cys Leu Pro Met Phe Thr Leu Ala Pro Leu Ile Val Leu Trp Phe Gly
            100                 105                 110
Trp Gly Thr Arg Ala Val Ile Ile Pro Thr Ala Leu Ser Ile Phe Phe
        115                 120                 125
Pro Leu Ala Leu Thr Ile His Gln Gly Ile Lys Asn Ser Pro Glu Glu
    130                 135                 140
Leu Leu Glu Gln Phe Thr Leu Tyr Gln Ala Thr Thr Trp Gln Lys Leu
145                 150                 155                 160
Phe Lys Leu Arg Ile Pro Asn Gly Leu Pro His Ile Phe Ser Gly Leu
                165                 170                 175
Lys Ile Ala Met Ser Ala Ala Asp Leu Arg Pro Leu Leu Glu Asn Gly
            180                 185                 190
Leu Gln His Asn Leu Val
        195
```

<210>1146

<211>140
<212>PRT
<213>Chlamydia trachomatis
<400>1146
Val Thr Ile Ser Gly Ile Pro Gln Leu Gln Arg Thr Glu Arg Ser Leu
1 5 10 15
Leu Ser Ile Tyr Asn His Gln Pro Leu Tyr Lys Arg Leu Met Asp Trp
20 25 30
Ser Phe Phe Leu Leu Ser Gln Ser Cys Ile Leu Phe Leu Ala Ala Asp
35 40 45
Ser Thr Thr Asn Val Glu Val Leu Asn Thr Ile Leu Gly Asn Leu Ser
50 55 60
Lys Arg Ser Lys Ala Leu His Leu Leu Arg Glu Ser Leu Phe Ala Leu
65 70 75 80
Leu Gly Ser Phe Val Leu Tyr Pro Leu Leu Ser Gly Leu Leu Tyr Ser
85 90 95
Leu Gln Thr Pro Ala Cys Ala Val Leu Leu Ser Glu Gly Val Gly Leu
100 105 110
Cys Ser Gln Glu Cys Gly Leu Phe Phe Gly Ile Leu Lys His Pro Phe
115 120 125
Gly Val Lys Phe Leu Arg Tyr Pro Ser His Leu Lys
130 135 140

<210>1147
<211>108
<212>PRT
<213>Chlamydia trachomatis
<400>1147
Leu Ala Cys Ser Glu Ile Trp Ala Ile Asn Tyr Ser Ala Ser Lys Asp
1 5 10 15
Pro Ile Phe Ala Tyr Leu Ile Leu Leu Tyr Ala His Leu Ala Thr Ile
20 25 30
Met Tyr Arg Ser Cys Asp Pro Val Cys Pro Ser Leu Leu Thr Phe Ser
35 40 45
Ser Ala Pro Gln Asn Tyr Leu Gly Ile Ser Ser Pro Leu Gly Thr Ile
50 55 60
Asn Ile Phe Phe Val Val Leu Lys Ala Gly Met Val Leu Ala Asn Asn
65 70 75 80
Ser Val Leu Pro Ala Leu Gln Val Met Phe Ile Pro Ala Gly Phe Met
85 90 95
Leu Leu Ile Thr Leu Tyr Ala Tyr Arg Lys Leu Ala
100 105

<210>1148
<211>182
<212>PRT
<213>Chlamydia trachomatis
<400>1148
Ser Leu Thr Glu Ser Leu Lys Lys Thr Thr Ser His Pro Ser Pro Arg
1 5 10 15
Arg Gly Ile Ser Pro Ser Gly Leu Asn Asn Leu Ser His Ser Arg His
20 25 30
Asn Leu Asn Ala Ser Ala Leu Asp Cys Tyr Met Val Pro Ile Asn Glu
35 40 45
Asp Tyr Tyr Gln Val Leu Arg Leu Lys Leu His Ser Phe Phe His Lys
50 55 60
Lys Lys Cys Val Asp Leu Leu Asn Leu His Thr Lys His Phe Phe Ile
65 70 75 80
Ser Lys Lys Leu Ser Ile Ala Pro Gly Lys Gln Val Arg Ser Phe Ile
85 90 95
Lys Ile Met Thr His Ile Tyr Ser Gly Pro Ser Phe His Phe Gly Ala
100 105 110
Leu Arg Lys Glu Glu Arg Leu Ser Leu Arg Ile Thr Gly Arg Ile Ala

```
        115                 120                 125
Leu Tyr Ser Phe Leu Gly Val Ile Met Ser Val Met Ala Ser Asp Lys
    130                 135                 140
Ala Cys Ala Pro Val Arg Ala Ser Arg Pro Phe Pro Lys Gln Lys Leu
145                 150                 155                 160
Arg Gly Ala Arg Phe Thr Gly Ala Ile Arg Ser Gly Asn Arg Ser Arg
                165                 170                 175
Arg Arg Gly Phe Ser Arg
            180
<210>1149
<211>133
<212>PRT
<213>Chlamydia trachomatis
<400>1149
Leu Gln Gln Pro Pro Thr Leu Trp Ser Gln Thr Cys Arg Tyr Ser Pro
  1               5                  10                  15
Met Arg Met Ala Leu Asp Lys Lys Lys Arg Leu Thr Leu Phe Val Glu
            20                  25                  30
Lys Arg Met Phe Arg Ser Gln Lys Pro Lys Lys Asn Lys Cys Cys Leu
        35                  40                  45
Trp Leu Arg Gly Val Leu Phe Gly Gly Phe Leu Ala Thr Leu Leu Thr
    50                  55                  60
Ser Leu Phe Leu Pro Lys Ser Gly Met Gln Ile Arg Lys Lys Leu Leu
65                  70                  75                  80
Arg Val Lys Thr Ser Gly Thr Lys Lys Gly Arg Ala Leu Leu Lys Asn
                85                  90                  95
Ser Lys His His Thr Arg Glu Phe Ala Glu Gln Thr Lys Leu Leu Ala
            100                 105                 110
Lys Asn Ile Ser Lys Glu Ile Gln Asp Phe Thr Gln Ser Ile Ile Asp
        115                 120                 125
Glu Ser Arg Arg Asp
    130
<210>1150
<211>145
<212>PRT
<213>Chlamydia trachomatis
<400>1150
Leu Arg Lys Asp Asp Asn Val Lys Phe Tyr Leu His Arg Leu Lys Phe
  1               5                  10                  15
Pro Gly Asp Arg Glu Asp Ile His Ala Ser Ile Pro Pro Gln Val Phe
            20                  25                  30
Cys Asp Ser Glu Glu Glu Gly Met Cys Ser Pro Val Glu Ile Arg Gly
        35                  40                  45
Ser Leu Glu Met Val Ser Gly Glu Gln Trp Phe Leu Ser Leu Glu Ile
    50                  55                  60
Ser Thr Ile Leu Ser Leu Arg Cys Arg Ile Cys Asp Ala Pro Val Glu
65                  70                  75                  80
Trp Pro Val Gln Gly Ile Val Ile Gln Gln Leu Ile His Cys Ser Asp
                85                  90                  95
Glu Arg Ser Gly Val Phe Asp Cys Arg Asp Leu Ile Arg Asp Glu Leu
            100                 105                 110
Leu Leu Glu Gly Asp Arg Phe Gln Glu Cys Gln Glu Gly Gly Cys Pro
        115                 120                 125
Ala Arg Glu Phe Ile Lys Asn Phe Leu Lys Lys Arg Arg Asp Val Thr
    130                 135                 140
Leu
145
<210>1151
<211>90
<212>PRT
<213>Chlamydia trachomatis
```

<400>1151
Val Leu Met His Phe Ser Asn Cys Leu Tyr Gln Ala Phe Glu Asp Gln
1 5 10 15
Leu Leu Pro Glu Pro Leu Tyr Gln Lys Phe Gln Ile Cys Tyr Gln Thr
20 25 30
Tyr Ile Glu Ala Ala Ser Lys Lys Ser Pro Leu Arg Lys Arg Lys Leu
35 40 45
Phe Val Leu Asn Gly Leu Arg Ser Leu Leu Met Thr Leu Arg Ile Leu
50 55 60
Leu Phe Ser Leu Pro Thr Thr Lys Lys Phe Ala Arg Gln Leu Ile Phe
65 70 75 80
Thr Asn Leu Ala Ser Thr Phe Phe Leu Arg
85 90

<210>1152
<211>180
<212>PRT
<213>Chlamydia trachomatis
<400>1152
Met Leu Leu Leu Glu Gln Asn Glu Asp Pro His Gln Tyr Lys Asp Ser
1 5 10 15
Val Ala Thr Ser Met Leu Leu Ser Trp Ile His Asn Leu Tyr Phe Ser
20 25 30
Asp Leu Arg Thr Glu Gln Gln Leu Gly Tyr Met Val Gly Ser Lys Tyr
35 40 45
Leu Glu Phe Ala Glu Thr Pro Cys Gly Leu Phe Tyr Ile Arg Ser Asn
50 55 60
Asn Tyr Ser Pro Glu Glu Leu Val His Arg Thr Gln Leu Phe Ile Gln
65 70 75 80
Lys Ile Ala Thr Asp Pro Glu Ser Ala Gly Leu Ser Glu Glu Ile Phe
85 90 95
Glu Gln Leu Arg Glu Thr Tyr Ile Gln Ser Ile Leu Leu Pro Ser Ser
100 105 110
Thr Pro Leu Ala Met Ala Lys Lys Leu Phe Ser Ile Ala Phe Glu Thr
115 120 125
Lys Lys Gln Asp Phe Ser Arg Pro Asp Gln Lys Ile Ala Ala Ala Arg
130 135 140
Ser Met Asp Tyr Ser Tyr Phe Lys Lys Tyr Cys Glu Glu Phe Leu Ser
145 150 155 160
Gln Lys Phe Gly Pro Glu Ile Gln Leu Leu Val Tyr Gly Ala Asn Ser
165 170 175
Ser Gln Glu Lys
180

<210>1153
<211>87
<212>PRT
<213>Chlamydia trachomatis
<400>1153
Met Ile Leu Pro His Tyr Ser Ser Gly Leu Arg Ile Gly Ser Ala Ile
1 5 10 15
Leu Phe Phe Ser Ala Val Ile His Thr Phe Leu Thr Pro Trp Leu Thr
20 25 30
Arg Leu Tyr Glu Glu Ser Gln His Lys Lys Met Ile Phe Pro Glu Arg
35 40 45
Trp Arg Gln Tyr Leu Trp Leu Ser Glu Leu Leu Arg Ile Val Ser Arg
50 55 60
Val Glu Leu Val Phe Val Leu Trp Ala Ile Pro Leu Phe Cys Leu Phe
65 70 75 80
Leu Tyr Thr Glu Ala Ile Ala
85

<210>1154
<211>75

<212>PRT
<213>Chlamydia trachomatis
<400>1154
Met Glu Leu Val Val Gln Ser Arg Glu Thr Asp Lys Lys Ser Val Ile
1 5 10 15
Lys Lys Ile Arg Gln Gln Gly Gly Ile Pro Ala Val Leu Tyr Ser Gly
20 25 30
Gly Lys Ser Leu Ala Asn Ile Val Val Asp Ala Arg Val Phe Ser Lys
35 40 45
Phe Leu Ser Thr Leu Glu Ser Gly Ala Phe Ser Phe Tyr Cys Val His
50 55 60
Ala Phe Leu Met Lys Asp Glu Lys Ser Lys Leu
65 70 75
<210>1155
<211>96
<212>PRT
<213>Chlamydia trachomatis
<400>1155
Leu Phe Phe Gln Lys Arg Lys Arg Thr His Tyr Phe Leu Met Asn Ser
1 5 10 15
Asn Ile Glu Tyr Arg Gln Tyr Arg Ile Asp Ile Leu Ser Cys Phe Ile
20 25 30
Cys Leu Leu Met Met Val Trp Thr Leu Val Ser Ile Lys Leu Gly Asp
35 40 45
Ser Leu Gly Gly Ile Ile Pro Gly Cys Leu Gly Tyr Leu Leu Ala Lys
50 55 60
Arg Lys His Arg Arg Pro Val Arg Trp Phe Phe Leu Thr Phe Phe Phe
65 70 75 80
Gly Ile Ala Ser Gly Ile Phe Leu Val Val Leu His Pro Lys Gln Lys
85 90 95
<210>1156
<211>242
<212>PRT
<213>Chlamydia trachomatis
<400>1156
Met Ser Leu Phe Thr Thr Cys Ala Pro Val Asp Thr Pro Cys Ile His
1 5 10 15
Leu Thr Val Phe Gln Glu Ile Phe Asn Arg Tyr Thr Glu Lys Pro Tyr
20 25 30
Pro Ala Thr Ser Ile Leu Val Pro Leu Tyr Phe Pro Glu Glu Pro Leu
35 40 45
Thr Phe Ser Glu Asp Leu Ser Pro Ser Thr Ala Pro Ile Leu Asn Pro
50 55 60
Pro Gly Leu Glu Pro Gln Ala Leu Pro Val Glu Thr Pro Lys Asp Pro
65 70 75 80
Val Thr Thr Ser Ile Pro Pro Pro Ser His Pro Lys Glu Ser Lys His
85 90 95
Ser Trp Ala Cys Val Pro Ile Tyr Pro Gly Leu Ser His Glu Glu Leu
100 105 110
Leu Lys Glu Asn Tyr Pro Ala Leu Lys Arg Tyr Ile Gln Arg Pro Ala
115 120 125
Arg Ala Ser Cys Gly Ile Phe Val His Glu Ser Gln Glu His Glu Ile
130 135 140
Leu Phe Phe Asn Arg Leu Ala Lys Ile Leu Ser Gln Lys Ile Phe Pro
145 150 155 160
Thr Arg Leu Val Leu Phe Tyr Gln Lys Thr Leu Ser Asp Phe Ser His
165 170 175
Ser Pro His Pro Phe Cys Leu Ala Pro Leu Pro Thr Ile Arg Tyr Lys
180 185 190
Asn Ser Gln Val Asn Tyr His Asp Pro Val Leu His Asp Lys Val Thr
195 200 205

```
Cys Ile Pro Ile Tyr Ser Ser Ser Gln Tyr Glu Lys Asp Ser Ala Leu
    210                 215                 220
Lys Arg Asp Leu Trp Thr Leu Leu Thr Ser Leu Ser Ala Ser Met Gln
225                 230                 235                 240
Lys Ser
```

<210>1157
<211>88
<212>PRT
<213>Chlamydia trachomatis
<400>1157

```
Met Asp Asn Gly Val Leu Asp Ile Arg Ser Leu Ser Ile Lys Val Phe
  1               5                  10                  15
Tyr Ala Gln Leu Ser Cys Ala Ser Gly Leu Phe Val Gln Ile Val Leu
            20                  25                  30
Val Phe Cys Ser Arg Ser Lys Thr Phe Ile Leu Ser Ala Ala Phe Leu
        35                  40                  45
Phe Ala Phe Ile Leu Val Ile Val Lys Asn Val Glu Lys Leu Leu Val
    50                  55                  60
Ala Ile Leu Ser Asp Arg Phe Phe Val Arg Lys Thr Arg Val Ile Val
65                  70                  75                  80
Leu Gln Asn Asn Met Ser Arg Thr
                85
```

<210>1158
<211>82
<212>PRT
<213>Chlamydia trachomatis
<400>1158

```
Met Met Lys Thr Lys His Glu Tyr Ser Phe Gly Val Ile Pro Ile Arg
  1               5                  10                  15
Phe Phe Gly Thr Pro Asp Arg Ser Thr Leu Lys Ala Cys Phe Ile Cys
            20                  25                  30
His Thr Asp Gly Lys His Trp Gly Phe Pro Lys Gly His Ala Glu Glu
        35                  40                  45
Lys Glu Gly Pro Gln Glu Ala Ala Glu Arg Glu Leu Val Glu Glu Thr
    50                  55                  60
Gly Leu Gly Ile Val Asn Phe Phe Pro Lys Ile Phe Val Glu Asn Leu
65                  70                  75                  80
Phe Leu
```

<210>1159
<211>94
<212>PRT
<213>Chlamydia trachomatis
<400>1159

```
Thr Asn Cys Cys Ile Cys Leu Phe Asn Ser Ile Met Ala Ala Ser Ser
  1               5                  10                  15
Ser Ser Arg Ala Phe Leu Ser Ser Ser Thr Ile Ala Leu Tyr Cys Lys
            20                  25                  30
Ala Arg Ser Lys Ser Arg Pro Asp Pro Pro Asn Asn Phe Leu Ser His
        35                  40                  45
Ser Asn Leu Ala Leu Ser Ser Leu Arg Arg Ser Ile Leu Cys Ser Arg
    50                  55                  60
Thr Cys Arg Ile Phe Asn Thr Phe Ser Ser Gly Gln Ala Ser Ile Cys
65                  70                  75                  80
Ser Ser Ser Arg Ala Arg Thr Leu Leu Cys Ala Ala Leu Ile
                85                  90
```

<210>1160
<211>217
<212>PRT
<213>Chlamydia trachomatis

<400>1160
Val Pro Asn Arg His Val Asp Met Asn Ser Trp Trp Arg Ser Ala Cys
1 5 10 15
Tyr Pro Arg Ser Thr Phe Tyr Pro Leu Ser Asp Gly Asp Ser Thr Phe
20 25 30
His Arg Arg Ile Thr Lys Pro Asp Phe Arg Leu Cys Ser Thr Cys Trp
35 40 45
Ser Cys Ser Gln Pro Ile Leu Tyr Leu Tyr Ala Leu Leu Val Ile Ala
50 55 60
Asn His Asp Glu Ile Ser Phe Gly Leu Leu Arg Tyr Phe Leu Gly Gly
65 70 75 80
Tyr Arg Pro Ser Lys Thr Ala Arg Leu Ala Met Ser Ile Phe Gln Ile
85 90 95
His Gly Ile Met Leu Asp Ser Gln Leu Val Lys Thr Ser Ile Ser Thr
100 105 110
Leu Thr Pro Thr Leu Leu Lys Lys Ser Val Leu Ser Leu Leu Ala Ile
115 120 125
Leu His Ile Thr Asn Gln Lys Pro Ile Pro Lys Tyr Ser Lys Gly Ser
130 135 140
Arg Gly Leu Phe Val Leu Ser Arg Val Asn Ser Ile Phe Thr Ala Thr
145 150 155 160
Thr Ile Ser Pro Ser Leu Ser Leu Arg Gln Cys Pro Xaa Ser Leu His
165 170 175
His Ser Val Gln Val Gly Thr Tyr Pro Xaa Lys Glu Phe Arg Tyr Leu
180 185 190
Ser Thr Val Ile Val Thr Ala Ala Ile His Gln Gly Leu Gly Ser Met
195 200 205
Leu Arg Phe Thr Ala Asp Ile Ser Leu
210 215
<210>1161
<211>90
<212>PRT
<213>Chlamydia trachomatis
<400>1161
Glu Ala Phe Leu Gln Pro Ser Phe Glu Arg Lys Leu His Leu Met Leu
1 5 10 15
Pro Pro Ile Phe Tyr Ala Pro Ile Phe Tyr Gln Leu Pro Lys Lys Pro
20 25 30
Phe Phe Leu Thr Ser Gln Phe Ile Pro Ser His Thr Ile Leu Asn Pro
35 40 45
Phe Tyr Lys Thr Lys Phe Ser Ser Leu Phe Phe Phe Phe Leu Leu Ile
50 55 60
Leu Pro Phe Leu Ser Ser Ile Phe Leu Ser Lys Phe Phe Phe Leu Ala
65 70 75 80
Leu Arg Thr Ser Leu His Leu Gly Leu Phe
85 90
<210>1162
<211>198
<212>PRT
<213>Chlamydia trachomatis
<400>1162
Val Lys Gly Phe Ser Ser Lys Gly Gly Val Arg Leu Tyr Phe Tyr Leu
1 5 10 15
Gln Gly Leu Ala Phe Ala Arg Thr Glu Arg Ile Thr Lys Lys Arg Glu
20 25 30
Gly Ile Asn Glu Lys Gly Lys Glu Gly Pro Val Asp Lys Ser Ala Leu
35 40 45
Tyr Lys Lys Glu Lys Ala Leu Lys Tyr Tyr Phe Phe Val Glu Arg Val
50 55 60
Phe Phe Ala Val Leu Thr Phe Val Leu Gly Ala Ala Phe Phe Val Gly
65 70 75 80

```
Leu Thr Phe Ala Leu Val Ala Gln Val Leu Phe Val Gln Ala Phe Leu
                 85                  90                  95
Ala Thr Val Phe Val Ala Arg Thr Gly Phe Leu Ala Ala Ala Leu Ala
            100                 105                 110
Phe Leu Ala Ala Ala Leu Leu Phe Phe Ile Lys Pro Ile Phe Ser Ala
        115                 120                 125
Leu Met Asp Ser Leu Arg Tyr Thr Phe Ala Val Phe Ser Asn Leu Ile
    130                 135                 140
Asp Ser Val Arg Thr Leu Cys Ala Ala Ala Leu Phe Pro Phe Ser Ala
145                 150                 155                 160
Leu Ser Lys Phe Cys Trp Ile Leu Ser Asn Lys Ser Val Ile Phe Phe
                165                 170                 175
Ala Val Ser Phe Ser Ala Met Lys Lys Tyr Pro Leu Val Val Val Leu
            180                 185                 190
Asn Tyr Phe Phe Gln Phe
        195
<210>1163
<211>82
<212>PRT
<213>Chlamydia trachomatis
<400>1163
Met Thr Trp Leu Ser Gly Leu Tyr Ser Ile Phe Val Ala Ser Ala Ala
  1               5                  10                  15
Phe Cys Ser Leu Asp Leu Ile Leu Val Ala Val Ile Leu Leu Ser Arg
             20                  25                  30
Lys Phe Leu Ile Lys Val His Pro Cys Lys Leu Lys Ile Asn Asn Asp
         35                  40                  45
Asp Ser Leu Thr Lys Thr Val Asp Ser Gly Lys Thr Leu Leu Ser Ser
     50                  55                  60
Leu Leu Asp Phe Arg Asn Arg Tyr Pro Phe Ser Leu Trp Arg Glu Ser
 65                  70                  75                  80
Cys Leu

<210>1164
<211>191
<212>PRT
<213>Chlamydia trachomatis
<400>1164
Val Pro Asn Arg His Val Asp Met Asn Ser Trp Trp Arg Ser Ala Cys
  1               5                  10                  15
Tyr Pro Arg Ser Thr Phe Tyr Pro Leu Ser Asp Gly Asp Ser Thr Phe
             20                  25                  30
His Arg Arg Ile Thr Lys Pro Asp Phe Arg Leu Cys Ser Thr Cys Trp
         35                  40                  45
Ser Cys Ser Gln Pro Ile Leu Tyr Leu Tyr Ala Leu Leu Val Ile Ala
     50                  55                  60
Asn His Asp Glu Ile Ser Phe Gly Leu Leu Arg Tyr Phe Leu Gly Gly
 65                  70                  75                  80
Tyr Arg Pro Ser Lys Thr Ala Arg Leu Ala Met Ser Ile Phe Gln Ile
                85                  90                  95
His Gly Ile Met Leu Asp Ser Gln Leu Val Lys Thr Ser Ile Ser Thr
            100                 105                 110
Leu Thr Pro Thr Leu Leu Lys Lys Ser Val Leu Ser Leu Leu Ala Ile
        115                 120                 125
Leu His Ile Thr Asn Gln Lys Pro Ile Pro Lys Tyr Ser Lys Gly Ser
    130                 135                 140
Arg Gly Leu Phe Val Leu Ser Arg Val Asn Ser Ile Phe Thr Ala Thr
145                 150                 155                 160
Thr Ile Ser Pro Ser Leu Ser Leu Arg Gln Cys Pro Gly Ser Leu His
                165                 170                 175
His Ser Cys Arg Ser Glu Leu Thr Arg Gln Gly Ile Ser Leu Pro
```

180 185 190

<210>1165
<211>103
<212>PRT
<213>Chlamydia trachomatis
<400>1165

```
Met Met Arg Met Leu Glu Ala Cys Lys Phe Asn Ala Ile Ser Phe Ser
  1               5                  10                  15
Lys Ala Leu Ile Phe Cys Thr Leu Thr Pro Val Leu Gly Arg Thr Ser
            20                  25                  30
Lys Ala Ala Arg Val Gly Pro Glu Gln Met Phe Pro Ile Ala Ala Ser
        35                  40                  45
Ile Pro Lys Leu Ala Asn Val Cys Cys Lys Ile Ala Ala Phe Phe Phe
    50                  55                  60
Asn Ser Ser Lys Arg Asp Ser Gly Arg Arg Thr Phe Arg Leu Leu Lys
65                  70                  75                  80
Arg Trp Tyr Cys Gly Lys Ser Gly Ala Ser Pro Ala Ser Thr Asn Gly
                85                  90                  95
Asp Gly Val Gly Lys Gly Leu
            100
```

<210>1166
<211>180
<212>PRT
<213>Chlamydia trachomatis
<400>1166

```
Arg Asn Ser Gly Ala Asp Met Leu Phe Trp Gly Ile Phe Ser Leu Cys
  1               5                  10                  15
Leu Gly Gly Leu Phe Gly Gly Tyr Cys Arg Leu Arg Tyr Thr Ala Lys
            20                  25                  30
Ala Leu Leu Leu Ser Trp Arg Gln Leu Leu Arg Leu Ala Leu Lys Lys
        35                  40                  45
Arg Glu Val Leu Gln Glu Ile Ala Ala Leu Gln Thr Phe Pro Leu Leu
    50                  55                  60
Arg Leu Glu Glu Glu Ile Ala Phe Leu Lys Gln Gly Ser Ser Tyr Ser
65                  70                  75                  80
Leu Lys Glu Phe Leu Lys Ala Ser Asp Ala Asp Gly Val Thr Phe Tyr
                85                  90                  95
Glu Met Glu Arg Phe Phe Thr Leu Arg Leu Lys Gln Thr Leu Ala Ser
            100                 105                 110
Leu Gln Xaa Ser Leu His Gln Glu Ala Val Gln His Leu Met Glu Glu
        115                 120                 125
Leu Leu Ala Tyr Glu Asn Ala Phe Ser Phe Glu Ala Phe Ala Phe Glu
    130                 135                 140
Lys Ala Ala Glu Thr Tyr Thr Thr Leu His Gly His Pro Val Ile Arg
145                 150                 155                 160
Phe Ser Gly Lys Leu Phe Arg Phe Pro Gln Ile Ser Phe Pro Pro Leu
                165                 170                 175
Asp Glu Ala Ile
            180
```

<210>1167
<211>92
<212>PRT
<213>Chlamydia trachomatis
<400>1167

```
Val Cys Gly Gln Lys Leu Gln Leu Leu Leu Val Lys Ser Glu Trp Arg
  1               5                  10                  15
Tyr Leu Arg Cys Thr Lys Ile Arg Leu Arg Asn Val Glu Lys Pro Leu
            20                  25                  30
Ser Pro Phe Arg Lys Glu Gly Trp Leu Val Gly Cys Leu Pro Arg Glu
        35                  40                  45
Gly Ala Cys Phe Val Asn Phe Cys Pro Val His Ser Tyr Thr Ile Gly
```

```
     50                  55                  60
Cys Pro Val Gly Asn Ser Lys Glu Ser Thr Cys Ser Ser Asp Asn Phe
 65                  70                  75                  80
Ser Arg Ser Ile Ile Lys Glu Arg Lys Glu Phe Pro
                 85                  90
```

<210>1168
<211>109
<212>PRT
<213>Chlamydia trachomatis
<400>1168

```
Met Leu Leu Leu Cys Ser Met Arg Lys Arg Arg Lys Lys Leu Ile Val
  1               5                  10                  15
Leu Ser Val Glu Val Phe Leu Ser Ile Val Ile Ala Gln Glu Tyr Val
            20                  25                  30
Ile Val Leu Val Lys Arg Trp Gln Lys Thr Phe Tyr Asn Ile Met Trp
        35                  40                  45
Gly Ser Leu Ile Glu Arg Tyr Val Ile Phe Arg Arg Val Phe Gly Ile
     50                  55                  60
Gln Met Ser Lys Gly Ile Arg Gly Leu Phe Leu Phe Val Arg Ile Thr
 65                  70                  75                  80
Leu Lys Asn Leu Gln Ile Phe Trp Leu Lys Ser Cys Ile Trp Thr Val
                 85                  90                  95
Ile Ser Leu Lys Ile Arg Ser Met Pro Lys Leu Leu Tyr
            100                 105
```

<210>1169
<211>105
<212>PRT
<213>Chlamydia trachomatis
<400>1169

```
Leu Phe Asn Arg Ser Arg Thr Phe Phe Ser Cys Phe Leu Ile Leu Arg
  1               5                  10                  15
Thr Val Leu Tyr Arg Leu Asp Asn Arg Phe Ser Gly Cys Met Trp Ile
            20                  25                  30
Phe Leu Pro Arg Lys Ser Leu Val Ile Ser Trp Ile Gly Asn Gly Phe
        35                  40                  45
Leu Leu Leu Phe Tyr Leu Leu Ser Tyr Thr Glu Ile Asp Gly Ile His
     50                  55                  60
Ser Thr Thr Ser Ile Thr Leu Phe Leu Phe Pro Glu Phe Arg Ser Phe
 65                  70                  75                  80
Phe Phe Leu Phe Gly Tyr Leu Leu Phe Lys Ser Leu Phe Phe Leu Cys
                 85                  90                  95
Ser Ser Cys Leu Leu Ser Arg Ala Leu
            100                 105
```

<210>1170
<211>179
<212>PRT
<213>Chlamydia trachomatis
<400>1170

```
Leu Ile Thr Val Lys Thr Arg Arg Ala Lys Ala Leu Tyr Ser Glu Leu
  1               5                  10                  15
Phe Ala Thr Lys Gln Val Lys Lys Leu Tyr Val Ala Ile Cys Ile Asn
            20                  25                  30
Ala Pro Ser Gln Glu Leu Ile His Thr Arg Ile Thr Arg His Pro Leu
        35                  40                  45
Lys Arg Lys Glu Met Thr Val Leu Ser Thr His Ala Glu Gly Gly Lys
     50                  55                  60
Glu Ala Ile Thr His Cys His Val Leu Ala Thr Asn Gly Arg Leu Ser
 65                  70                  75                  80
Val Val Ala Leu Tyr Pro Glu Thr Gly Arg Thr His Gln Leu Arg Val
                 85                  90                  95
His Met Lys His Leu Gly Thr Pro Ile Leu Gly Asp Pro Val Tyr Gly
```

```
            100                 105                 110
Ile Pro Ser Ile Asn Phe Arg Tyr Gly Leu Asp Lys Gln Gln Leu His
        115                 120                 125
Ala Tyr Ser Leu Val Phe Ala His Pro Glu Ser Ala Glu Arg Val Lys
    130                 135                 140
Leu Val Thr Lys Leu Pro Asp Asp Met Thr Ser Leu Ile Glu Lys Glu
145                 150                 155                 160
Phe Arg Glu Gly Val Ser Ile Leu Asp Gly Ser Cys Asp Trp Phe Lys
                165                 170                 175
Ile Thr Arg

<210>1171
<211>80
<212>PRT
<213>Chlamydia trachomatis
<400>1171
Met Lys Arg Ser Tyr Ile Ser Cys Pro Phe Cys Ser Pro Ile Phe Ala
  1               5                  10                  15
Ile Arg Ala Cys Arg Asn Trp Ser Lys Glu Arg Thr Gly Pro Ser Lys
            20                  25                  30
Val Ile Phe Asp Gly Asp Ile Asn Ser Ser Phe Thr Trp Pro Glu Thr
        35                  40                  45
Glu Val Thr Pro Trp Phe Arg Thr Asp Arg Leu Ala Met Asn Cys Val
    50                  55                  60
Ser Ile Thr Arg Asp Ser Pro Asn Thr Lys Ile Phe Leu Tyr Phe Thr
65                  70                  75                  80
<210>1172
<211>140
<212>PRT
<213>Chlamydia trachomatis
<400>1172
Leu Leu Ser Arg Arg Ala Gly Val Pro Val Ile Ile Ser Leu Leu Phe
  1               5                  10                  15
Ser Glu Leu Ser Pro Asp Gln Glu Val Tyr Arg Asp Ala Val Ala Ala
            20                  25                  30
Ala Phe Gln Gly Val Arg Ser Cys His Thr Cys Phe Ser Tyr Ser Trp
        35                  40                  45
Gly Asp Phe Ser Arg Lys Ala Cys Ser Tyr Trp Ile Lys Lys Arg Leu
    50                  55                  60
Trp Ser Leu Ser Lys Leu Ala Phe Ala Ser Ala Leu Ala Ile Phe Ile
65                  70                  75                  80
Gly Gly Gly Val Glu Ser Leu Leu Leu Val His Lys Ala Gln Gln Ile
                85                  90                  95
Phe Arg Glu Ile Ala Pro Glu Lys Glu Ile Thr Arg Val Phe Arg Ser
            100                 105                 110
Ala Gln Gln Val Val Lys Glu Val Cys Asp Ser Asp His Ser Trp Glu
        115                 120                 125
Tyr Glu Tyr Leu Leu Arg Tyr Pro Arg Ile Lys Lys
    130                 135                 140
<210>1173
<211>98
<212>PRT
<213>Chlamydia trachomatis
<400>1173
Met Leu Ser Tyr Leu Leu Arg Thr Ala Val Asn Ile Tyr Ser Phe Leu
  1               5                  10                  15
Ile Leu Val Tyr Val Leu Cys Ser Trp Leu Pro Glu Cys His Asn Thr
            20                  25                  30
Gln Trp Tyr Arg Ile Ile Arg Arg Trp Val Ser Pro Tyr Leu Arg Ile
        35                  40                  45
Phe His Lys Phe Val Pro Arg Ile Gly Phe Ile Asp Ile Ser Pro Met
```

```
     50                  55                  60
Ile Ala Leu Leu Cys Leu Gly Val Leu Pro Phe Met Ile Leu Lys Ile
 65                  70                  75                  80
Val Arg Phe Ile Val Leu Asn Ile Phe Gln Ser Pro Trp Leu Leu Gln
                85                  90                  95
Tyr Leu
```

<210>1174
<211>107
<212>PRT
<213>Chlamydia trachomatis
<400>1174

```
Val Lys Thr Ala Ser Leu Val Lys Ile Phe Ala Arg Leu Ile Ser Ser
  1               5                  10                  15
Asp Lys Thr Arg Ile Ser Ser Cys Ser Leu Ala Arg Leu Ser Glu Ala
            20                  25                  30
Asn Leu Tyr Ser Glu Phe Ser Leu Lys Ser Pro Lys Ala Leu Ala Ser
        35                  40                  45
Ser Ile Ser Leu Ala Phe Ser Thr Ile Ser Phe Pro Thr Arg Asp Cys
     50                  55                  60
Ser Leu Phe Phe Ile Arg Val Lys Leu Ser Glu Val Val Gln Arg Ile
 65                  70                  75                  80
Phe Ser Ser Ser Ser Arg Val Pro Leu Leu Arg Ala Gly Cys Thr Thr
                85                  90                  95
Ser Ala Lys Leu Leu Lys Thr Pro Arg Ser Pro
            100                 105
```

<210>1175
<211>112
<212>PRT
<213>Chlamydia trachomatis
<400>1175

```
Val Gly Gly Asn Glu Ser Ile Ala Lys Tyr Asn Asn Val Phe Phe Val
  1               5                  10                  15
Trp Gln Ser Tyr Ile Ser Leu Glu Leu Phe Ala Tyr Ser Lys Asn Pro
            20                  25                  30
Leu Ser Tyr Tyr Trp Ser Phe Pro Ser His Thr Ala Cys Leu Gln Cys
        35                  40                  45
Ile Pro Lys Leu Tyr Pro Tyr Lys Ser Arg Ile Leu Gly Leu Ile Ile
     50                  55                  60
Val Phe Leu Asn Phe Gly Ile Ser Thr Val Leu Glu Ser Thr Met Met
 65                  70                  75                  80
Leu Ala Thr Thr Glu Thr Ser Phe Lys Ile Gly Leu Phe Pro Pro Ser
                85                  90                  95
Phe Ile Leu Ser Ile Leu Phe Phe Phe Leu Phe Tyr Cys Leu Phe Thr
            100                 105                 110
```

<210>1176
<211>103
<212>PRT
<213>Chlamydia trachomatis
<400>1176

```
Lys Val Met Ser Ser Leu Asn Leu His Thr Leu Gly Ile Asn Cys Gly
  1               5                  10                  15
Gln Arg Val Arg Arg Asp Lys Lys Ala Val Arg Tyr Leu Gln Leu Phe
            20                  25                  30
Gln Ser Leu Arg Arg Gly Asp Leu Phe Gln Glu Trp Gln Pro Asn His
        35                  40                  45
Lys Asn Ile Arg Phe Val Val Leu Leu Val Asn Asn Ala Lys Arg Lys
     50                  55                  60
Phe Leu Leu Gly Glu Asn Ser Asn Val Asp Arg Glu Gly Tyr Leu Leu
 65                  70                  75                  80
Arg Lys Arg Glu Glu Gln Ala Leu Phe Val Ile Asn Phe Arg Lys Tyr
```

85 90 95
Ile Leu Phe Gln Leu Phe Leu
100

<210>1177
<211>84
<212>PRT
<213>Chlamydia trachomatis
<400>1177
Lys Leu Ile Phe Phe Leu Lys Ser Val Thr Leu Tyr Asn Ser Phe Leu
1 5 10 15
Phe Leu Cys Cys Tyr Ala Pro Thr Ser Phe Leu Phe Leu Ser Met Asp
20 25 30
Lys Arg Arg Arg Leu Asp Arg Arg Asp Arg Arg Gly Met Leu Ser Ser
35 40 45
Tyr Ser Arg Gly Glu Ala Ala Cys Val Phe Arg Gly Leu Gly Ala Thr
50 55 60
Arg Leu Phe Tyr Arg Gly Arg Thr Pro Gly Phe Thr Glu Ser Val Cys
65 70 75 80
Val Pro Trp Leu

<210>1178
<211>91
<212>PRT
<213>Chlamydia trachomatis
<400>1178
Ile Glu Pro Met His Phe Ile Phe Thr Leu Leu Cys Leu Thr Ser Leu
1 5 10 15
Val Thr Val Val Ser Leu Asp Ala Ala Gly Thr Arg Lys Arg Ile Ser
20 25 30
Tyr Ala Lys Leu Gln Glu Lys Glu Glu Val Ala Phe Ser Ala Gln Gln
35 40 45
Ser Ala Ile Ser Glu Val Ile Xaa Arg Asp Lys Thr Asn Asp Cys Leu
50 55 60
Pro Arg Arg Lys Lys Gln Ser Leu Val Arg Lys Ile Arg Ser Val Ile
65 70 75 80
Val Ser Leu Phe Gly Arg Ser Ala Ile Asp Cys
85 90

<210>1179
<211>157
<212>PRT
<213>Chlamydia trachomatis
<400>1179
Leu Ile Lys Arg Lys Asn Gln Val Trp Leu Met Ala Asp Glu Met Gln
1 5 10 15
Lys Glu Ser Ser Ser Gln Glu Pro Ser Ala Ser Lys Phe Gly Ser Leu
20 25 30
Lys Gln Lys Val Arg Asp Leu His Thr Asn Pro Lys Val Gly Gly Met
35 40 45
Lys Arg Phe Leu Ser Arg His Ala Cys Glu Ala Ile Gly Gly Ala Leu
50 55 60
Ile Val Phe Gly Ile Ile Ala Asn Cys Val Ser Trp Val Gly Gly Leu
65 70 75 80
Phe Val Ala Ser Gly Ile Val Leu Gly Phe Tyr Pro Glu Ile Leu Ala
85 90 95
Val Leu Gln Asn Leu Gln Ser Tyr Tyr Ala Lys Asn Gly Pro Ile Lys
100 105 110
Asn Ala Leu Val Cys Gly Val Ala Leu Phe Trp Leu Ile Lys Ala Pro
115 120 125
Ser Phe Val Leu Ser Phe Ile Val Leu Cys Ile Ile Val Ile Leu Leu
130 135 140
Ala Gln Gly Gln His Lys Asp Thr Thr Ser Arg His Glu

145 150 155

<210>1180
<211>79
<212>PRT
<213>Chlamydia trachomatis
<400>1180

Leu Leu Ile Val Gly Thr Ala Leu Ser Leu Ser Ile Arg Asn Asn Thr
1 5 10 15
Leu Thr Phe Leu Phe Phe Leu Ser Cys Tyr His Phe Ser Ser Leu Arg
20 25 30
Phe Tyr Pro Pro Arg Cys Thr Ile Arg Glu Met Tyr Leu Ser Glu Gly
35 40 45
Pro Leu Phe Ser Phe Pro Arg Lys Ala Trp Lys Glu Asn Pro Leu Pro
50 55 60
Ser Asp Asn His Leu Ile Trp Ile Val Ala Ile Leu Asn Thr His
65 70 75

<210>1181
<211>131
<212>PRT
<213>Chlamydia trachomatis
<400>1181

Leu Phe Arg Leu Arg Lys Arg Thr Pro Met Phe Ile Lys Ser Phe Val
1 5 10 15
His Leu Cys Leu Leu Phe Ser Leu Thr Pro Thr Gly Leu Phe Ser Ala
20 25 30
Ala Pro Ile Ser Ala His Pro Ser Val Thr Lys Lys Leu Ser Leu Arg
35 40 45
Gln Leu Phe Lys Arg Phe Leu Pro Glu Thr Ser His Asn Lys Lys Glu
50 55 60
Arg Tyr Tyr His Phe Leu Lys His Val Ser His Ala Leu Lys Arg Pro
65 70 75 80
Glu Ile Trp Asn Asp Leu Gln Asn Leu Leu Leu Ile Leu Met Gln Phe
85 90 95
Glu Gln Phe Ala Asn Gln Glu Val Gly Ser Arg Arg Tyr Glu Glu Ile
100 105 110
Leu Ser Gln Ile Asn Arg Lys Lys Asn Ser Phe Pro Ile Ile Arg Ala
115 120 125
Thr Gly Phe
130

<210>1182
<211>118
<212>PRT
<213>Chlamydia trachomatis
<400>1182

Pro Gly Phe His Tyr Ile Ala Thr Leu Ser Ile Pro Ser Trp Met Gln
1 5 10 15
His Ala Gln Ser Arg Ser Leu Leu Pro Lys Gln Trp Asn Ile Lys Phe
20 25 30
Pro Arg Ser Leu Leu Pro Ile Thr Gly Ile Cys Leu Ala Arg Ser Asn
35 40 45
Phe Ile Arg Pro Val Asn Lys Thr Arg Leu Asn Leu Ser Ser Gly Val
50 55 60
Ser Tyr Thr Ser His Pro Leu Leu Val Ser Ile Lys Lys Lys Asn Glu
65 70 75 80
Lys Ala Glu Leu Pro Thr Ile Ser Ser Phe Phe Val Lys Met Lys Lys
85 90 95
Gly Ile Ala Thr Phe Val Cys Ser Pro Leu Leu Leu Thr Gln Lys Val
100 105 110
Phe Thr Met Cys Leu Ala
115

<210>1183

<211>95
<212>PRT
<213>Chlamydia trachomatis
<400>1183
Ser His Leu Phe Lys Val Leu Phe Leu Arg Lys Glu Arg Asp His Tyr
1 5 10 15
Val Thr Pro Lys Glu Phe Ser Gly Leu Leu Glu Asn Leu Leu Leu Phe
20 25 30
Ser Leu Leu Phe Leu Leu Phe Asp Thr Pro Tyr Ser Pro Leu Ile His
35 40 45
Pro Gln Tyr Ala Ala Ser Ser Pro Leu Leu Pro Leu Phe Thr Gln Gln
50 55 60
Met Tyr Cys Leu Leu Lys Ala Ile Lys Leu Asn Glu Arg Ser Val Asp
65 70 75 80
Asp Ile Thr Thr Ile Val Gln Tyr Asp Ala Arg Ala Gly Leu Ala
85 90 95

<210>1184
<211>88
<212>PRT
<213>Chlamydia trachomatis
<400>1184
Tyr Phe Xaa Asn Ile His Thr Tyr Pro Tyr Phe Phe Gln Leu Leu Asn
1 5 10 15
Gly Lys Leu Ile Leu Leu Leu Ile Thr Ser Leu Leu Leu Lys Gly Ser
20 25 30
Leu Ser Ala His Ile Pro Val Leu Tyr Leu Leu Ser Leu Pro Cys Lys
35 40 45
Ser Ile Phe Thr Lys Ser Lys Thr Gly Leu Thr Ser Pro Cys Ser Arg
50 55 60
Gly Arg Gly Ile Leu Asn Arg Leu His Ala Ile Met Ile Phe Arg Xaa
65 70 75 80
Ala Gln Ala His Tyr Val Phe Gln
85

<210>1185
<211>85
<212>PRT
<213>Chlamydia trachomatis
<400>1185
Leu Leu Lys Lys Lys Lys Asp Asn Ile Arg Val Ser Leu Ser Gly Phe
1 5 10 15
Cys Met Leu Gly Arg Ala Gln Arg Thr Leu Lys Arg Lys Val Cys Tyr
20 25 30
Ser Gly Val Gly Val His Phe Gly Lys Ala Ala Met Leu Thr Xaa Glu
35 40 45
Pro Ala Glu Glu Asn Thr Gly Val Phe Ser Leu Val Met Gln Leu Leu
50 55 60
Asn Ser Ile Phe Pro Leu Asp Trp Arg Met Phe Val Glu Arg Asp Val
65 70 75 80
Ala Pro His Cys Leu
85

<210>1186
<211>97
<212>PRT
<213>Chlamydia trachomatis
<400>1186
Leu Cys Val Lys Ser Phe Arg Leu Asn Lys Asn Met Val Ala Val Phe
1 5 10 15
Ile Cys Lys Phe His Asp Phe Ile Leu Asn Arg Gly Ala Ile Ser Trp
20 25 30
Pro Asn Ser Phe Asp Ser Pro Ser Ile Gln Ser Gly Thr Met Gln Ile
35 40 45

Phe Gly Tyr Lys Ile Phe Cys Leu Ile Ser Gly Met Ser Asn Val Thr
50 55 60
Arg Asn Leu Trp Gln Cys Arg Asn Lys His Leu Val Ser Met Asn Glu
65 70 75 80
Thr Asn Val Met Ile Thr Trp Leu Leu Phe His Tyr Arg Lys Ile Asn
85 90 95
Arg

<210>1187
<211>90
<212>PRT
<213>Chlamydia trachomatis
<400>1187
Glu Leu Phe Ser Asp Ser Pro Met Leu Phe His Ile Phe Val Gly Ile
1 5 10 15
Pro Ile Gln Glu Gln Ile Leu His Leu Glu Pro Pro Leu Arg Ile Ile
20 25 30
Ser Phe Tyr Gly Lys Arg Phe Leu Gly Ile Tyr Ser Glu Thr Lys Glu
35 40 45
Ser Phe His Ser Asp Glu Val Ala Glu Leu Leu Lys Thr Ala Leu Leu
50 55 60
Gln Leu Lys Arg Val Ala Phe Arg Asn Ile Gln Thr Tyr Gln Ala Thr
65 70 75 80
Pro Ile Ile Ile Pro Glu Ile Leu Ile Gly
85 90
<210>1188
<211>137
<212>PRT
<213>Chlamydia trachomatis
<400>1188
Asn Ile Ser Tyr Phe Thr Pro Ile Tyr Arg Gly Ser Phe Tyr Phe Arg
1 5 10 15
Met Asp Phe Met Ser Val Val Pro Gln Ser Pro Cys Ser Ser Pro Thr
20 25 30
Asn Phe Tyr Arg Arg Leu Ser Val Ser Trp Arg Ala Ser Leu Ser Pro
35 40 45
Arg Ala Arg Tyr Glu Val Gly Ser Leu Leu Ala Ile Val Gly Leu Ile
50 55 60
Leu Thr Leu Ile Gly Ala Ala Ser Ile His Ala Val Leu Leu Gln Ser
65 70 75 80
Val Ala Thr Pro Ala Ile Leu Ser Leu Cys Ser Ala Phe Ser Ile Arg
85 90 95
Pro Leu Ala Thr Ala Ile Phe Ser Val Ile Val Gly Leu Ala Leu Leu
100 105 110
Ile Gly Gly Ile Phe Leu Leu Pro Val Gln Gln Glu Thr Pro His Ser
115 120 125
Ser Leu Arg Tyr Leu Ala Thr Thr Pro
130 135
<210>1189
<211>109
<212>PRT
<213>Chlamydia trachomatis
<400>1189
His His Ile Lys Val Met Gln Thr Ser Arg Ile Ser Ser Phe Phe Arg
1 5 10 15
Gly Leu Val His Leu Tyr Arg Trp Ala Ile Ser Pro Phe Leu Gly Ala
20 25 30
Pro Cys Arg Phe Phe Pro Thr Cys Ser Glu Tyr Ala Leu Val Ala Leu
35 40 45
Lys Lys Pro Pro Leu Arg Lys Ser Leu Phe Leu Ile Ala Lys Arg Leu
50 55 60

Sequence Listing

```
Leu Lys Cys Gly Pro Trp Cys Ile Gly Gly Ile Asp Leu Val Pro Arg
 65                  70                  75                  80
Thr Ser Val Glu Glu Tyr Leu Ser Ser Pro Thr Pro Leu Ala Glu Ser
                85                  90                  95
Pro Asp Asp Arg Thr Val Pro His Thr His Glu Thr Ser
            100                 105
<210>1190
<211>178
<212>PRT
<213>Chlamydia trachomatis
<400>1190
Met Ser Thr Pro Pro Thr Asp Ala His Cys Leu Phe Asp Pro Ile Arg
  1                 5                  10                  15
Cys Lys Pro Val Pro Pro Phe Pro Glu Glu His Val Arg Gln Ala Leu
            20                  25                  30
Leu Ser Phe Leu Ile Gln Glu Leu Ser Tyr Pro Gln Gln Gln Ile Ile
        35                  40                  45
Val Glu Lys Gly Ile Lys Ser Cys Ile Pro Ala Ser Leu Pro Pro Leu
    50                  55                  60
Pro Lys Lys Met Arg Gly Arg Ala Asp Val Leu Ile Leu Ser Pro Ser
 65                  70                  75                  80
Ser Tyr Val Ser Ser Glu Gly Ala Ser Ile Ser Phe Pro His Pro Gln
                85                  90                  95
Pro Leu Leu Leu Ile Glu Cys Lys Ala Lys Thr Val Thr Ser Leu Ser
            100                 105                 110
Phe Ser Gln Leu Ile Ser Tyr Asn Tyr Phe Ile Gly Ala Pro Cys Leu
        115                 120                 125
Ser Leu Ile Ser Ala Asn Ser Gln Leu Thr Gly Phe Leu Ser Pro Lys
    130                 135                 140
Thr Lys Thr Phe Ala Phe Tyr Gln Gly Ile Pro Ser Tyr Ser Gln Leu
145                 150                 155                 160
Met Asn Phe Tyr Ile His Thr Phe Ser Cys Lys Ser Pro Phe Pro Glu
                165                 170                 175
Leu Phe

<210>1191
<211>93
<212>PRT
<213>Chlamydia trachomatis
<400>1191
Leu Arg Cys Val Ile Cys Asn Leu Val Lys Asn Ala Val Glu Ala Ser
  1                 5                  10                  15
Asp Glu Glu Ile Phe Leu Glu Leu His Glu Lys Gly Phe Xaa Val Ile
            20                  25                  30
Asn Thr Gly Thr Leu Pro Pro Asn Ile Gln Xaa Lys Leu Phe Ile Pro
        35                  40                  45
Phe Phe Thr Thr Lys Pro Gln Gly Asn Gly Leu Gly Leu Ala Glu Ala
    50                  55                  60
His Lys Ile Met Arg Leu His Gly Gly Asp Leu Val Val Ser Thr Gln
 65                  70                  75                  80
Asp Asn Arg Thr Thr Phe Thr Ile Leu Trp Thr Pro Ala
                85                  90

<210>1192
<211>81
<212>PRT
<213>Chlamydia trachomatis
<400>1192
Asn Val Ile Asn Ala Gly Asp Trp Thr Arg Thr Asn Thr Leu Leu Leu
  1                 5                  10                  15
Arg Val Asp Phe Glu Ser Thr Ala Ser Thr Ile Pro Pro Arg Arg His
            20                  25                  30
```

```
Asn His Leu Gly Leu Lys Thr Glu Glu Glu Ile Glu Phe Leu Pro Leu
          35                  40                  45
Thr Gly Asn Ile Leu Lys Arg Thr Lys Tyr Lys Gly Glu Lys Val Phe
      50                  55                  60
Leu Leu Arg Lys Ile Arg Ser Ala Glu Val Phe Thr His Asp Glu Leu
 65                  70                  75                  80
Gln
```

<210>1193
<211>130
<212>PRT
<213>Chlamydia trachomatis

```
<400>1193
Met Arg Leu Asp Ser Tyr Glu Val Tyr Phe Phe Asp Leu Asp Gly Leu
  1               5                  10                  15
Leu Ile Asp Thr Glu Pro Leu Phe Tyr Gln Ala Cys Leu Glu Thr Trp
            20                  25                  30
Gln Lys Tyr Lys Val Ser Val Glu Leu Ser Phe Ser Gln Tyr Tyr Ser
          35                  40                  45
Leu Ala Met Gln Gly Arg Glu Arg Phe Gln Glu Ala Leu Ile Gln Leu
      50                  55                  60
Phe Pro Glu Thr Arg Ala Phe Xaa Pro Ser Tyr Phe Leu Asp Arg Asp
 65                  70                  75                  80
Arg Cys Tyr His Asp Leu Leu Ser Cys Glu Gln Ile Gln Leu Met Pro
                85                  90                  95
Gly Val Glu Thr Phe Leu Ser Leu Leu Glu Gly Lys Cys Leu Gly Val
            100                 105                 110
Val Thr Asn Ser Ser Lys Glu Ser Thr Leu Arg Ile Arg Lys Asn Ile
        115                 120                 125
Arg Phe
    130
```

<210>1194
<211>82
<212>PRT
<213>Chlamydia trachomatis

```
<400>1194
Tyr Lys Asn Arg Arg Asp Glu Lys Met Lys Arg Phe Phe Leu Phe Ile
  1               5                  10                  15
Val Ala Thr Ala Ala Leu Leu Thr Gln Gly Cys Ser Tyr Glu Pro Pro
            20                  25                  30
Lys Arg Glu Tyr Ile Leu Ala Gln Lys Cys Ser Pro Leu Phe Lys His
          35                  40                  45
Ala Arg Thr Leu Asp Phe Ser Leu Ala Gln Ala Val Phe Glu Met Thr
      50                  55                  60
Phe Phe Thr Lys Ala Pro Pro Cys Val Ser Ser Leu Glu Glu Leu Ser
 65                  70                  75                  80
Gln Asn
```

<210>1195
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